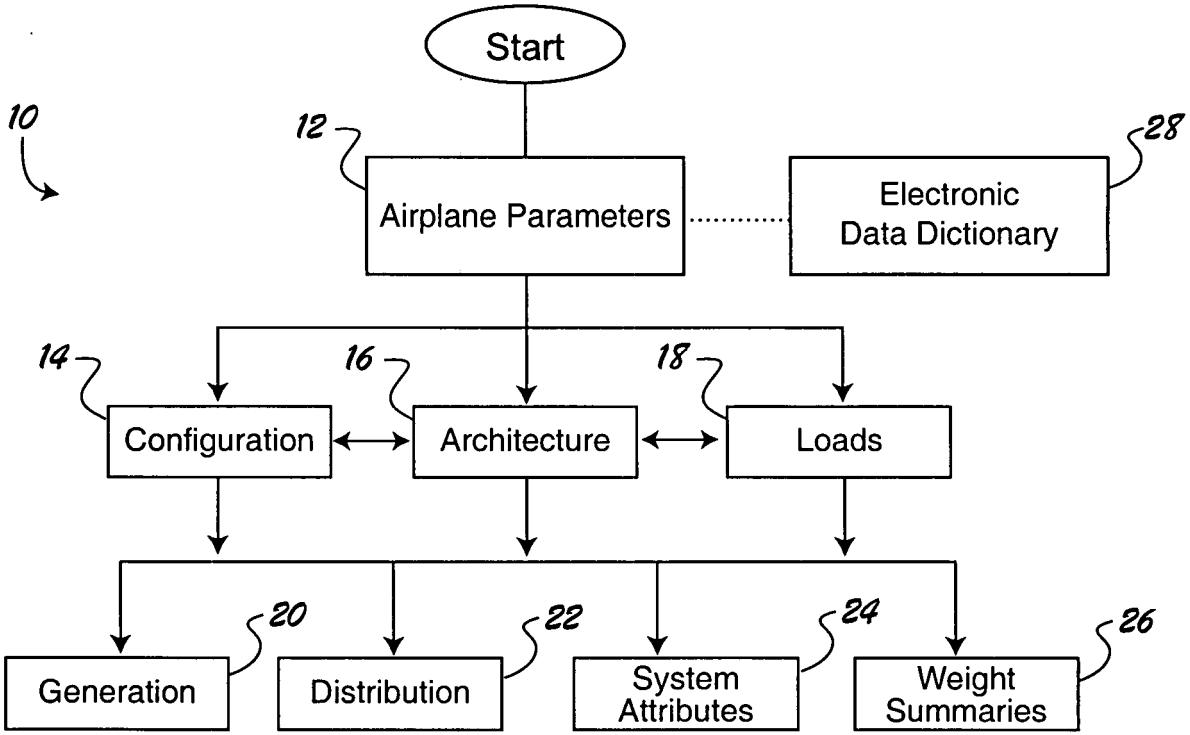

Start
10
12
Airplane Parameters
28
Electronic
Data Dictionary
14
16
18
Configuration
Architecture
Loads
20
22
24
26
Generation
Distribution
System
Attributes
Weight
Summaries

FIG. 1

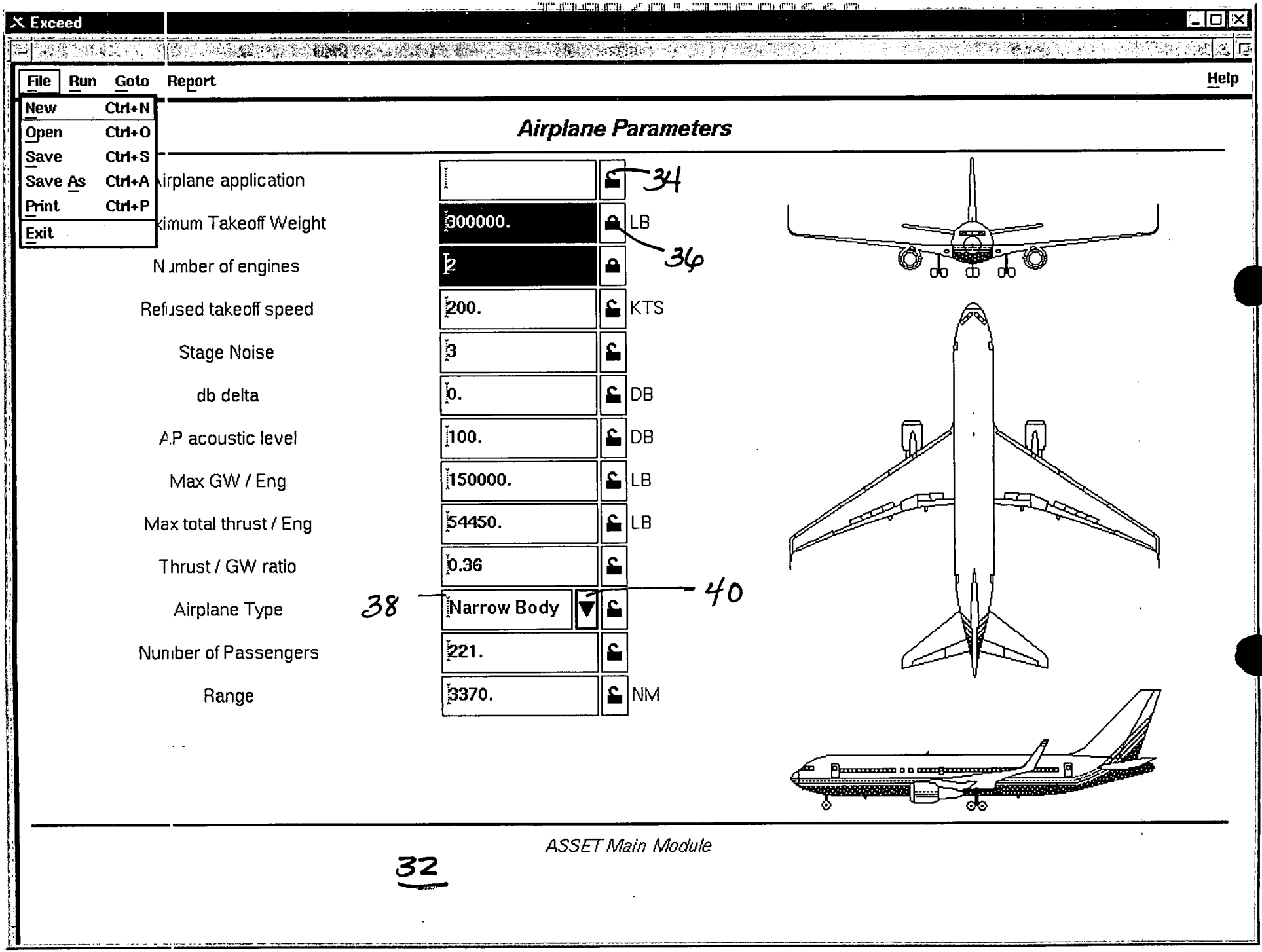

Exceed
File
Run
Goto
Report
Help
New Ctrl+N
Open Ctrl+O
Save Ctrl+S
Save As Ctrl+A
Print Ctrl+P
Exit
Airplane Parameters
irplane application
ximum Takeoff Weight
300000.
LB
Number of engines
2
Refused takeoff speed
200.
KTS
Stage Noise
3
db delta
0.
DB
A.P acoustic level
100.
DB
Max GW / Eng
150000.
LB
Max total thrust / Eng
54450.
LB
Thrust / GW ratio
0.36
Airplane Type
Narrow Body
Number of Passengers
221.
Range
3370.
NM
34
36
38
40
ASSET Main Module
32

FIGURE 2

Exceed

File | Run | Goto | Report | Help

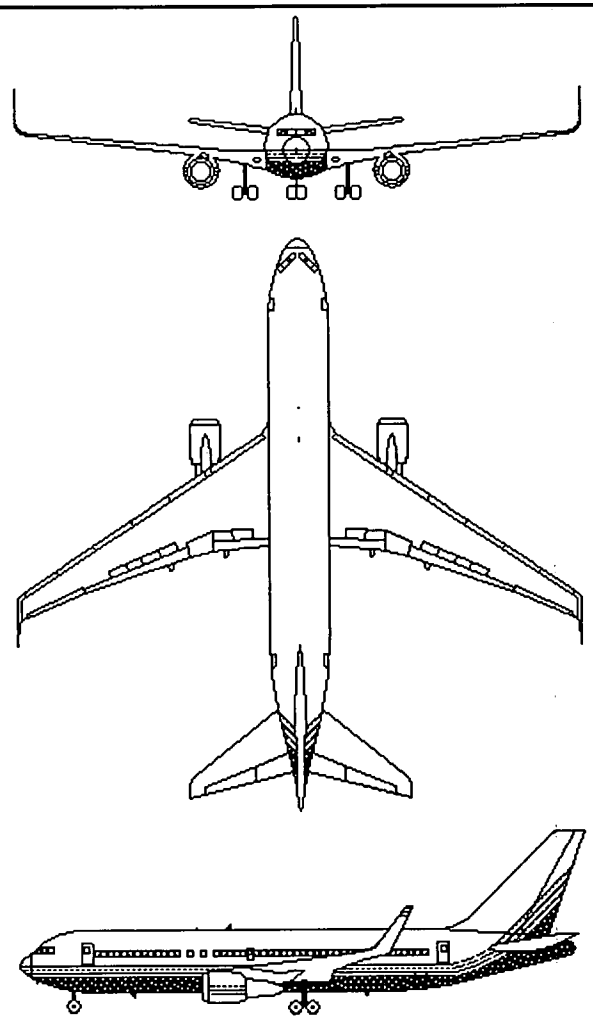
Calculate — 42

Optimize — 44

Airplane Parameters

Airplane application		
Maximum Takeoff Weight	300000.	LB
Number of engines	2	
Refused takeoff speed	200.	KTS
Stage Noise	3	
db delta	0.	DB
AP acoustic level	100.	DB
Max GW / Eng	150000.	LB
Max total thrust / Eng	54450.	LB
Thrust / GW ratio	0.36	
Airplane Type	Narrow Body	
Number of Passengers	221.	
Range	3370.	NM

32



ASSET Main Module

FIGURE 3

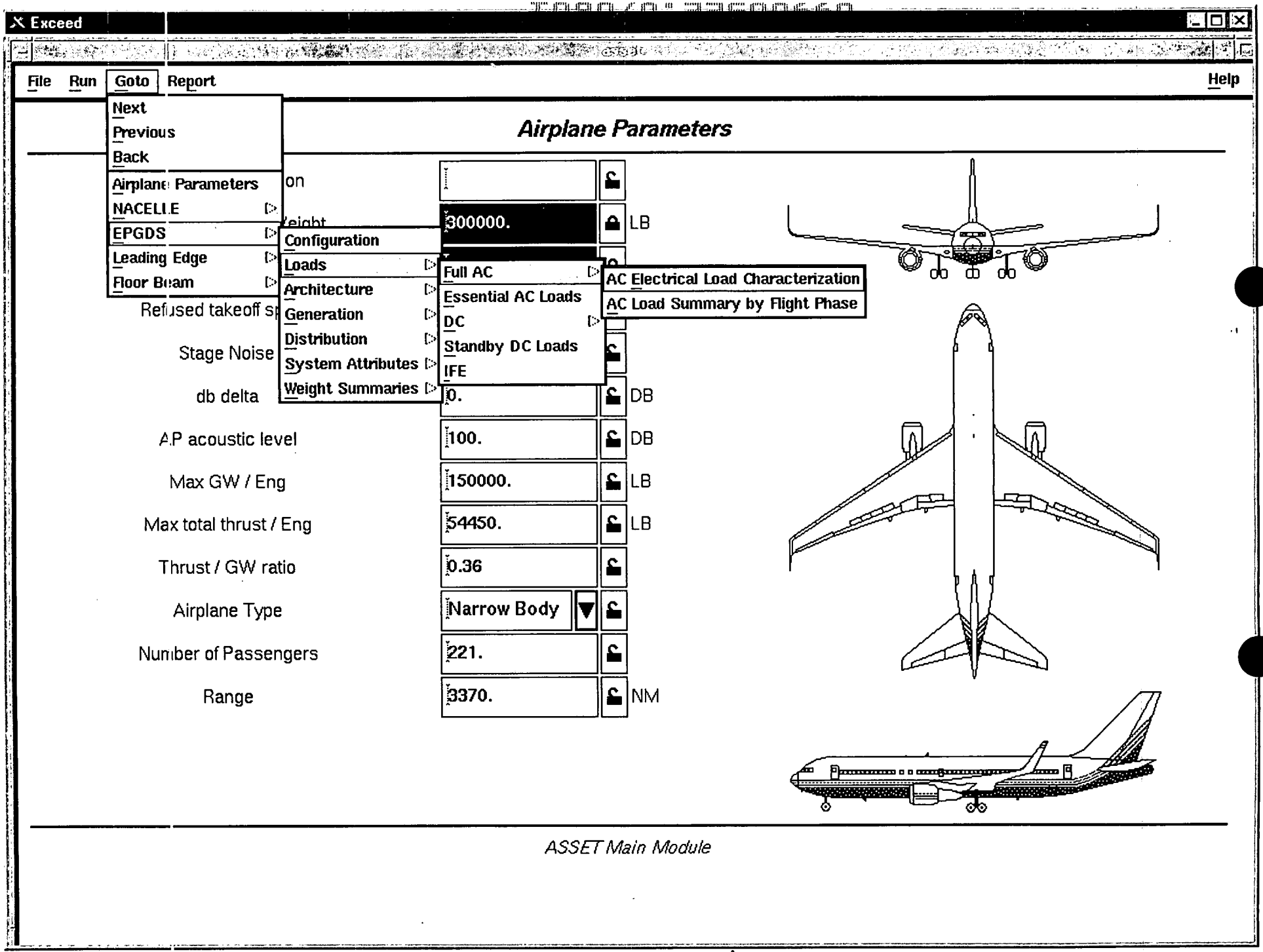

Exceed
File
Run
Goto
Report
Help
Next
Previous
Back
Airplane Parameters
NACELLE
EPGDS
Leading Edge
Floor Beam
Configuration
Loads
Architecture
Generation
Distribution
System Attributes
Weight Summaries
Full AC
Essential AC Loads
DC
Standby DC Loads
IFE
AC Electrical Load Characterization
AC Load Summary by Flight Phase
Airplane Parameters
300000.
LB
Refused takeoff sp
Stage Noise
db delta
0.
DB
A.P acoustic level
100.
DB
Max GW / Eng
150000.
LB
Max total thrust / Eng
54450.
LB
Thrust / GW ratio
0.36
Airplane Type
Narrow Body
Number of Passengers
221.
Range
3370.
NM
ASSET Main Module

FIGURE 4

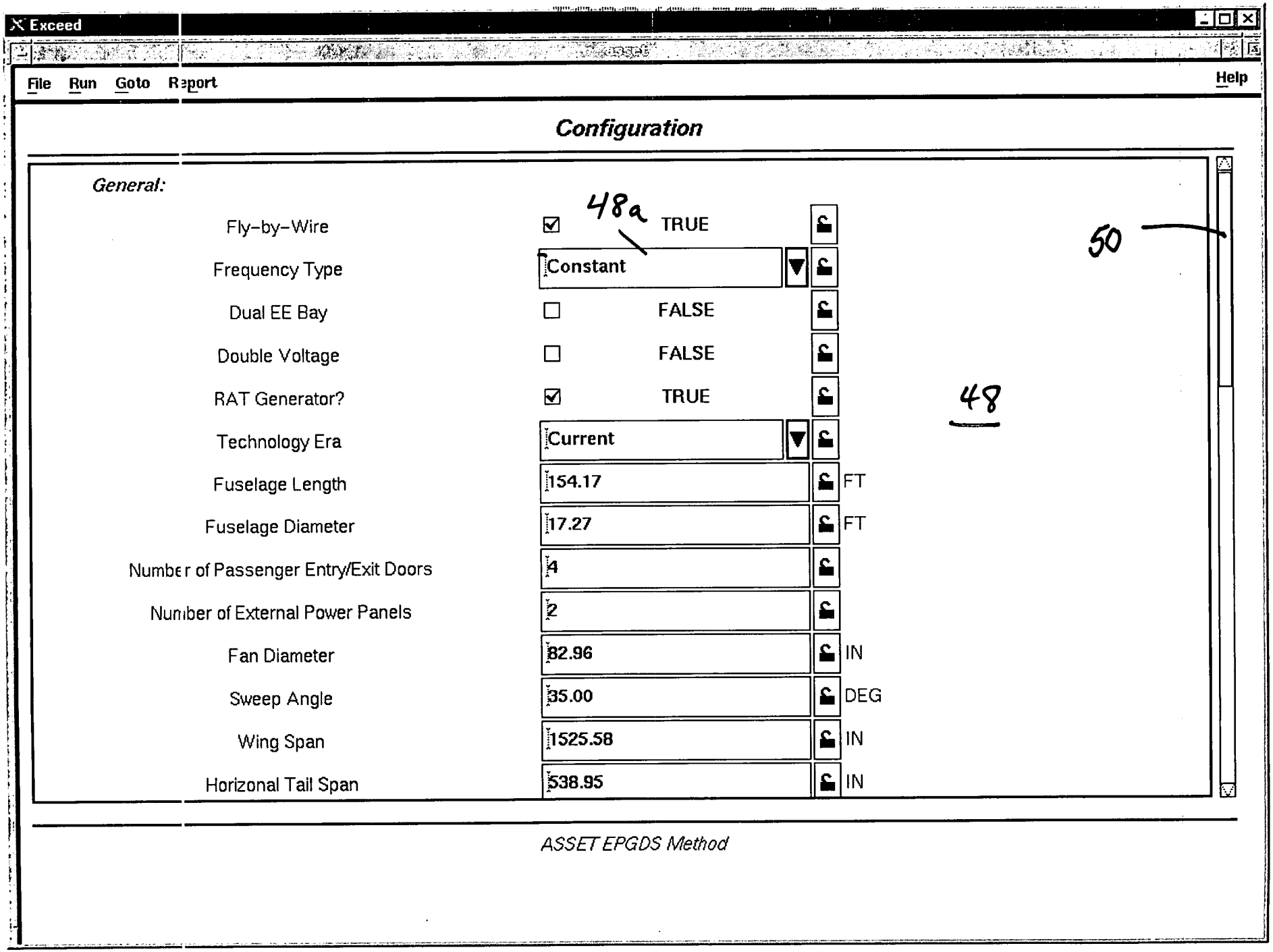

Exceed
File
Run
Goto
Report
Help
Configuration
General:
48a
Fly-by-Wire
TRUE
Frequency Type
Constant
Dual EE Bay
FALSE
Double Voltage
FALSE
RAT Generator?
TRUE
Technology Era
Current
Fuselage Length
154.17
FT
Fuselage Diameter
17.27
FT
Number of Passenger Entry/Exit Doors
4
Number of External Power Panels
2
Fan Diameter
82.96
IN
Sweep Angle
35.00
DEG
Wing Span
1525.58
IN
Horizonal Tail Span
538.95
IN
50
48
ASSET EPGDS Method

FIGURE 5A

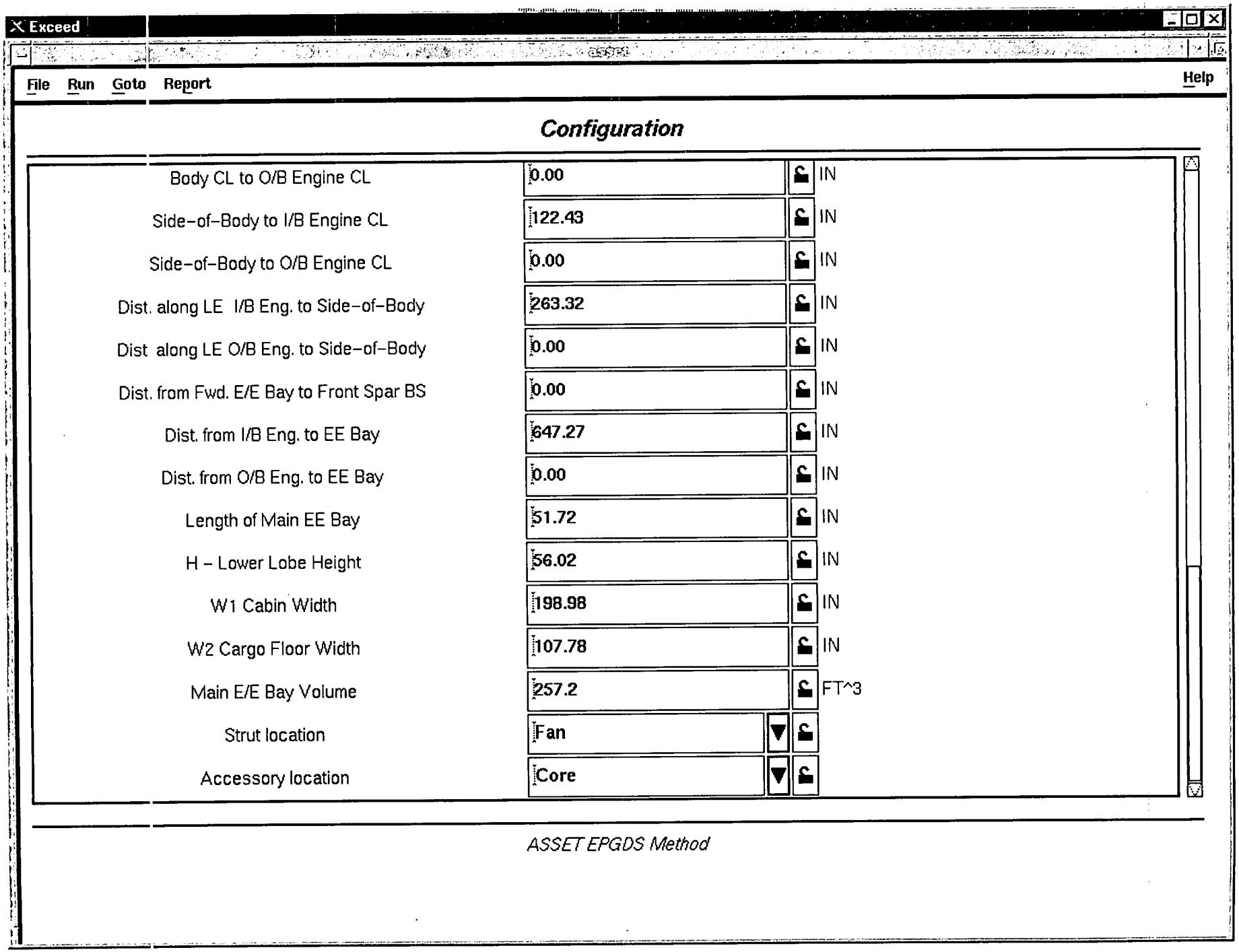

Exceed
File
Run
Goto
Report
Help
Configuration
Body CL to O/B Engine CL
0.00
IN
Side-of-Body to I/B Engine CL
122.43
IN
Side-of-Body to O/B Engine CL
0.00
IN
Dist. along LE I/B Eng. to Side-of-Body
263.32
IN
Dist along LE O/B Eng. to Side-of-Body
0.00
IN
Dist. from Fwd. E/E Bay to Front Spar BS
0.00
IN
Dist. from I/B Eng. to EE Bay
647.27
IN
Dist. from O/B Eng. to EE Bay
0.00
IN
Length of Main EE Bay
51.72
IN
H – Lower Lobe Height
56.02
IN
W1 Cabin Width
198.98
IN
W2 Cargo Floor Width
107.78
IN
Main E/E Bay Volume
257.2
FT^3
Strut location
Fan
Accessory location
Core
ASSET EPGDS Method

FIGURE 5B

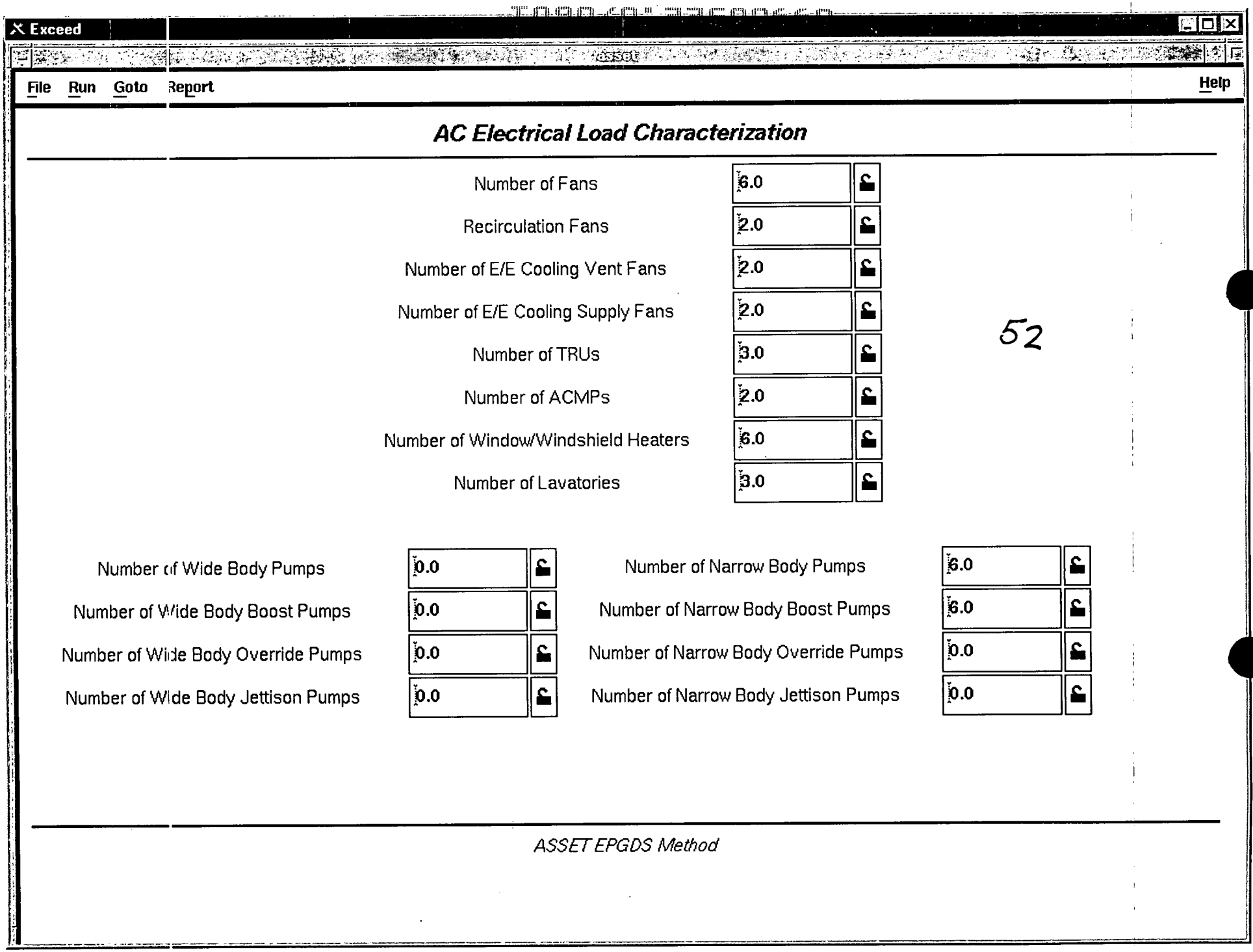

Exceed
File Run Goto Report Help
AC Electrical Load Characterization
Number of Fans 6.0
Recirculation Fans 2.0
Number of E/E Cooling Vent Fans 2.0
Number of E/E Cooling Supply Fans 2.0
Number of TRUs 3.0
Number of ACMPs 2.0
Number of Window/Windshield Heaters 6.0
Number of Lavatories 3.0
52
Number of Wide Body Pumps 0.0
Number of Wide Body Boost Pumps 0.0
Number of Wide Body Override Pumps 0.0
Number of Wide Body Jettison Pumps 0.0
Number of Narrow Body Pumps 6.0
Number of Narrow Body Boost Pumps 6.0
Number of Narrow Body Override Pumps 0.0
Number of Narrow Body Jettison Pumps 0.0
ASSET EPGDS Method

FIGURE 6

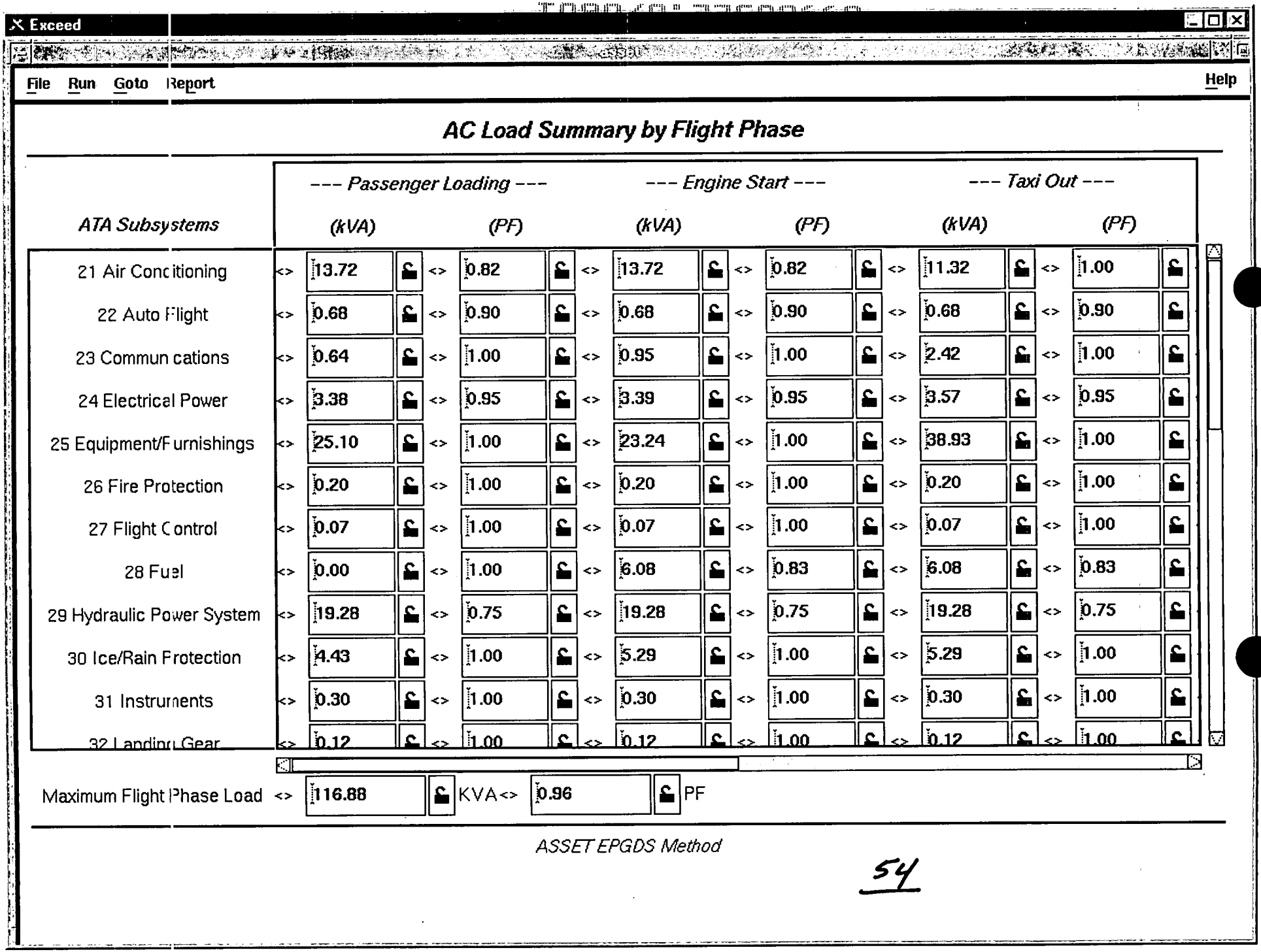

Exceed
File Run Goto Report Help
AC Load Summary by Flight Phase
--- Passenger Loading --- --- Engine Start --- --- Taxi Out ---
ATA Subsystems (kVA) (PF) (kVA) (PF) (kVA) (PF)
21 Air Conditioning 13.72 0.82 13.72 0.82 11.32 1.00
22 Auto Flight 0.68 0.90 0.68 0.90 0.68 0.90
23 Communications 0.64 1.00 0.95 1.00 2.42 1.00
24 Electrical Power 3.38 0.95 3.39 0.95 3.57 0.95
25 Equipment/Furnishings 25.10 1.00 23.24 1.00 38.93 1.00
26 Fire Protection 0.20 1.00 0.20 1.00 0.20 1.00
27 Flight Control 0.07 1.00 0.07 1.00 0.07 1.00
28 Fuel 0.00 1.00 6.08 0.83 6.08 0.83
29 Hydraulic Power System 19.28 0.75 19.28 0.75 19.28 0.75
30 Ice/Rain Protection 4.43 1.00 5.29 1.00 5.29 1.00
31 Instruments 0.30 1.00 0.30 1.00 0.30 1.00
32 Landing Gear 0.12 1.00 0.12 1.00 0.12 1.00
Maximum Flight Phase Load 116.88 KVA 0.96 PF
ASSET EPGDS Method

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FIGURE 7A

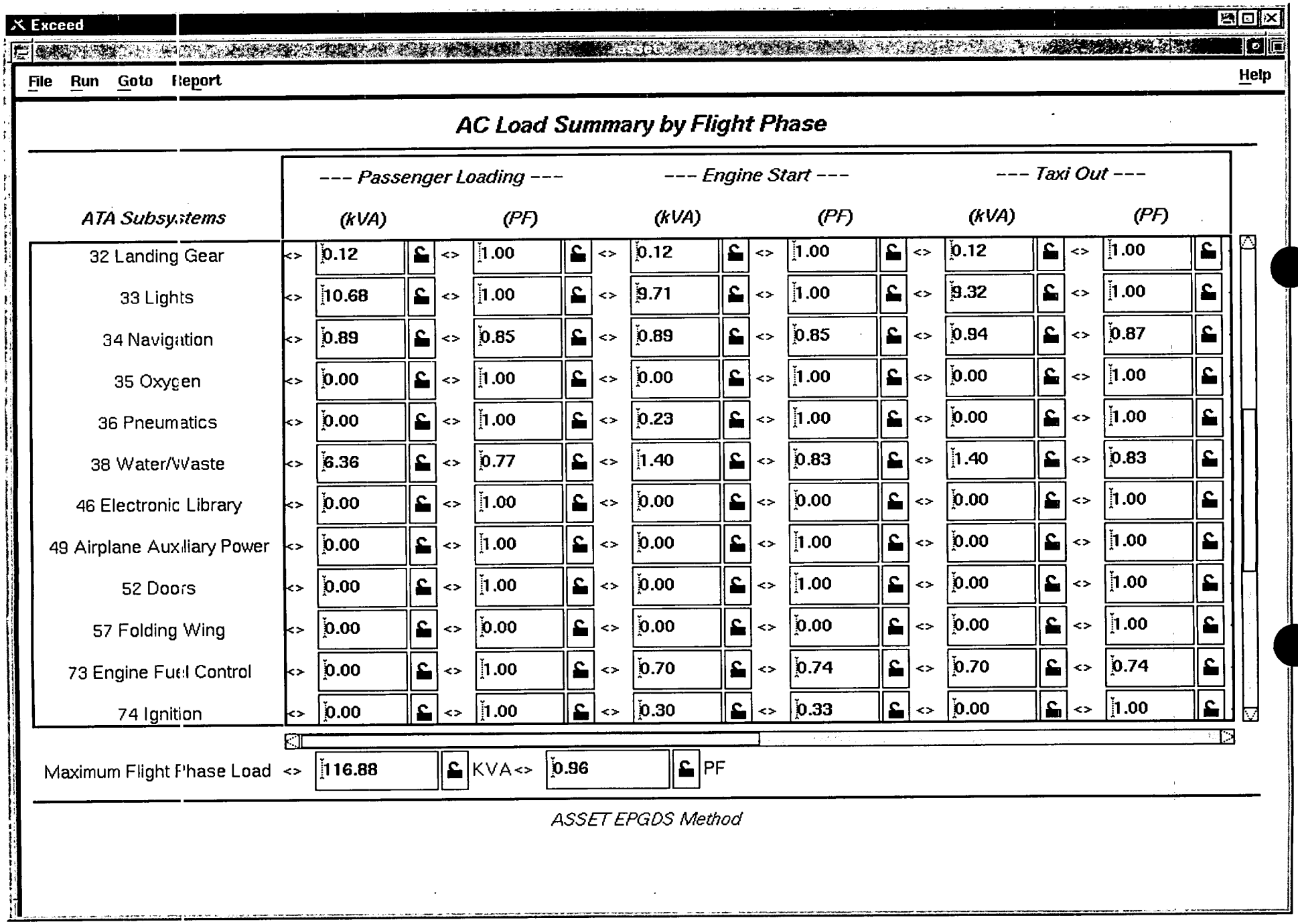
Exceed
File Run Goto Report Help
AC Load Summary by Flight Phase
--- Passenger Loading --- --- Engine Start --- --- Taxi Out ---
ATA Subsystems (kVA) (PF) (kVA) (PF) (kVA) (PF)
32 Landing Gear 0.12 1.00 0.12 1.00 0.12 1.00
33 Lights 10.68 1.00 9.71 1.00 9.32 1.00
34 Navigation 0.89 0.85 0.89 0.85 0.94 0.87
35 Oxygen 0.00 1.00 0.00 1.00 0.00 1.00
36 Pneumatics 0.00 1.00 0.23 1.00 0.00 1.00
38 Water/Waste 6.36 0.77 1.40 0.83 1.40 0.83
46 Electronic Library 0.00 1.00 0.00 0.00 0.00 1.00
49 Airplane Auxiliary Power 0.00 1.00 0.00 1.00 0.00 1.00
52 Doors 0.00 1.00 0.00 1.00 0.00 1.00
57 Folding Wing 0.00 0.00 0.00 0.00 0.00 1.00
73 Engine Fuel Control 0.00 1.00 0.70 0.74 0.70 0.74
74 Ignition 0.00 1.00 0.30 0.33 0.00 1.00
Maximum Flight Phase Load 116.88 KVA 0.96 PF
ASSET EPGDS Method

FIGURE 7B

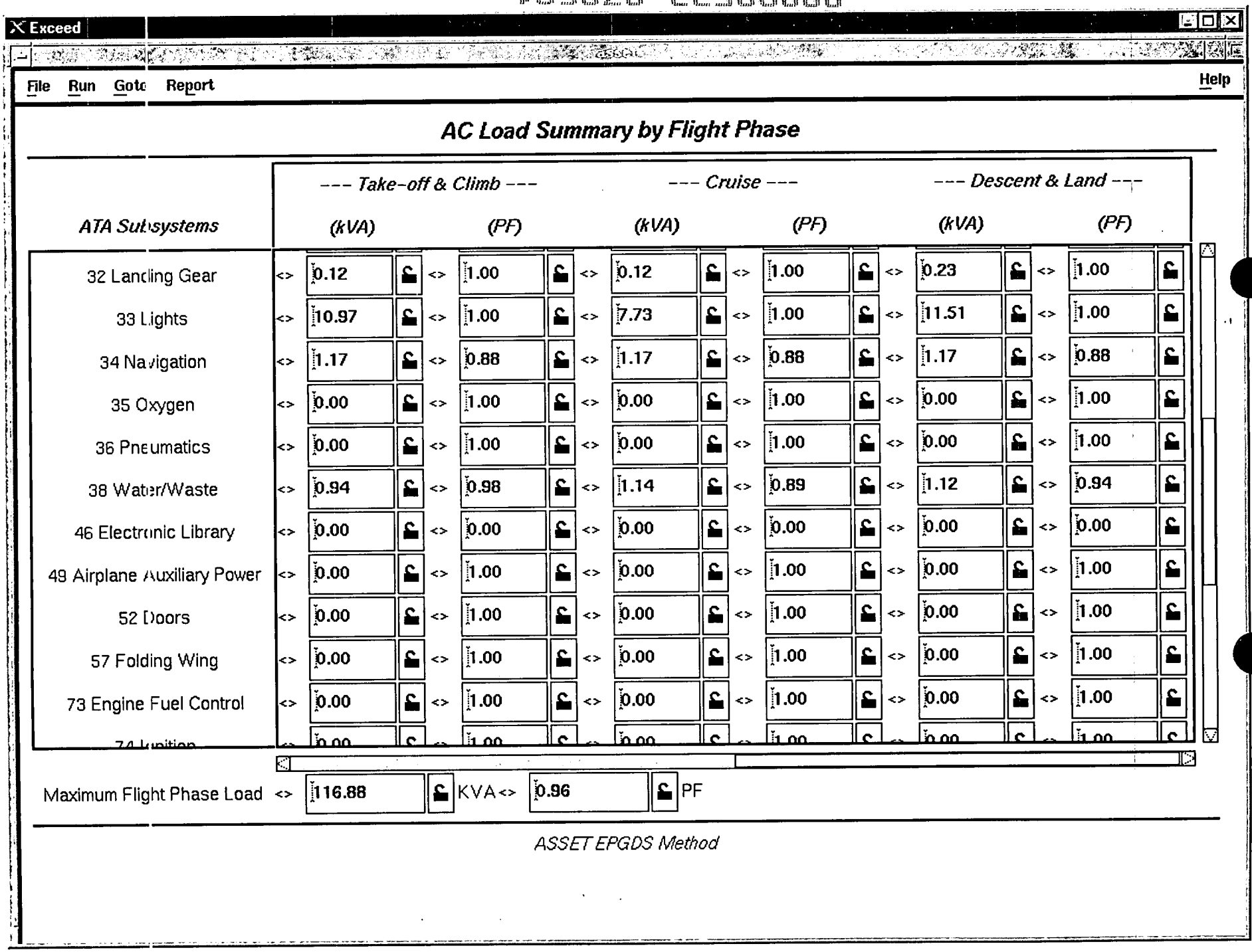
Exceed
File Run Goto Report Help
AC Load Summary by Flight Phase
--- Take-off & Climb --- --- Cruise --- --- Descent & Land ---
ATA Subsystems (kVA) (PF) (kVA) (PF) (kVA) (PF)
32 Landing Gear 0.12 1.00 0.12 1.00 0.23 1.00
33 Lights 10.97 1.00 7.73 1.00 11.51 1.00
34 Navigation 1.17 0.88 1.17 0.88 1.17 0.88
35 Oxygen 0.00 1.00 0.00 1.00 0.00 1.00
36 Pneumatics 0.00 1.00 0.00 1.00 0.00 1.00
38 Water/Waste 0.94 0.98 1.14 0.89 1.12 0.94
46 Electronic Library 0.00 0.00 0.00 0.00 0.00 0.00
49 Airplane Auxiliary Power 0.00 1.00 0.00 1.00 0.00 1.00
52 Doors 0.00 1.00 0.00 1.00 0.00 1.00
57 Folding Wing 0.00 1.00 0.00 1.00 0.00 1.00
73 Engine Fuel Control 0.00 1.00 0.00 1.00 0.00 1.00
Maximum Flight Phase Load 116.88 KVA 0.96 PF
ASSET EPGDS Method

FIGURE 7C

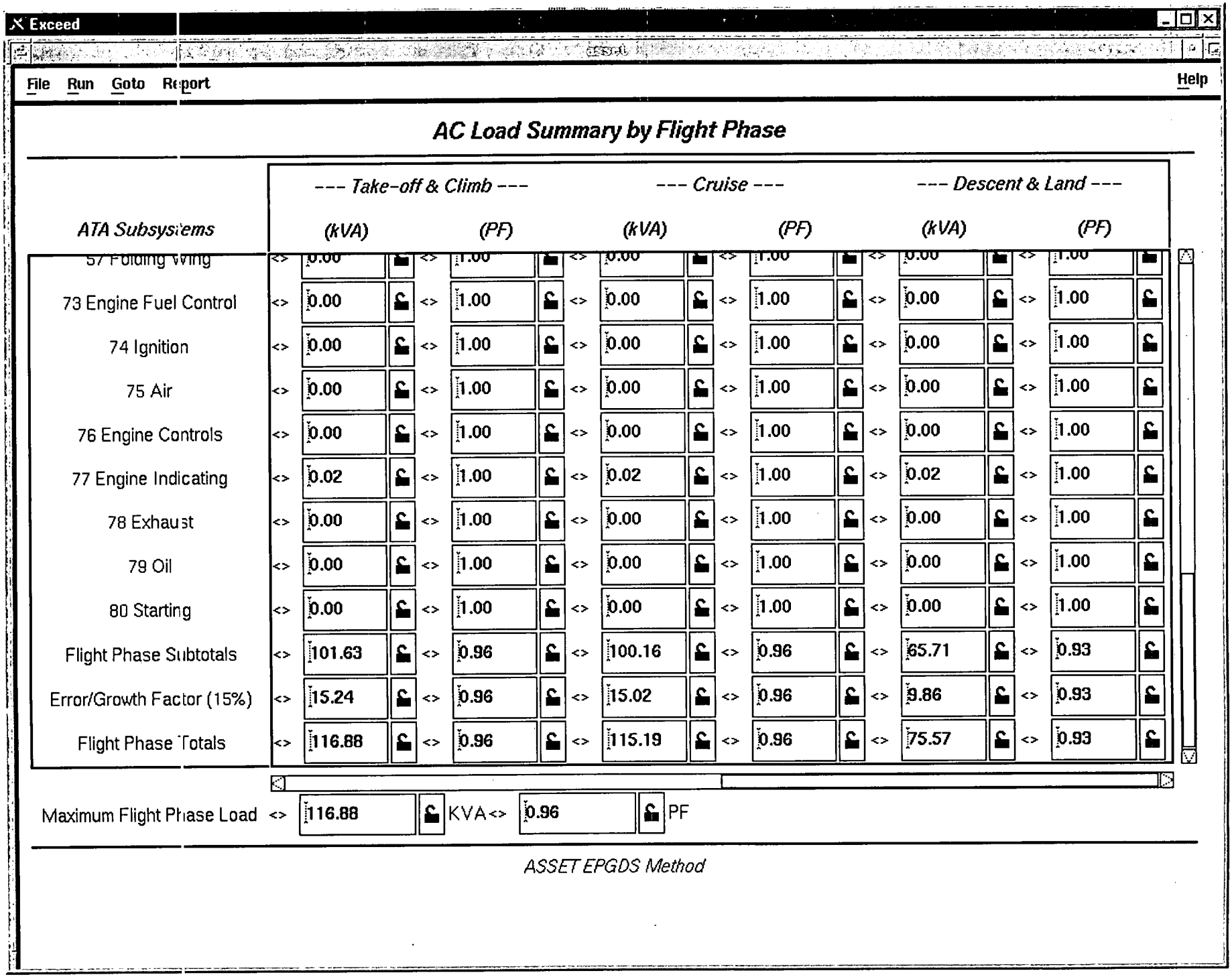
Exceed
File Run Goto Report Help
AC Load Summary by Flight Phase
--- Take-off & Climb --- --- Cruise --- --- Descent & Land ---
ATA Subsystems (kVA) (PF) (kVA) (PF) (kVA) (PF)
57 Folding Wing
73 Engine Fuel Control 0.00 1.00 0.00 1.00 0.00 1.00
74 Ignition 0.00 1.00 0.00 1.00 0.00 1.00
75 Air 0.00 1.00 0.00 1.00 0.00 1.00
76 Engine Controls 0.00 1.00 0.00 1.00 0.00 1.00
77 Engine Indicating 0.02 1.00 0.02 1.00 0.02 1.00
78 Exhaust 0.00 1.00 0.00 1.00 0.00 1.00
79 Oil 0.00 1.00 0.00 1.00 0.00 1.00
80 Starting 0.00 1.00 0.00 1.00 0.00 1.00
Flight Phase Subtotals 101.63 0.96 100.16 0.96 65.71 0.93
Error/Growth Factor (15%) 15.24 0.96 15.02 0.96 9.86 0.93
Flight Phase Totals 116.88 0.96 115.19 0.96 75.57 0.93
Maximum Flight Phase Load 116.88 KVA 0.96 PF
ASSET EPGDS Method

FIGURE 7D

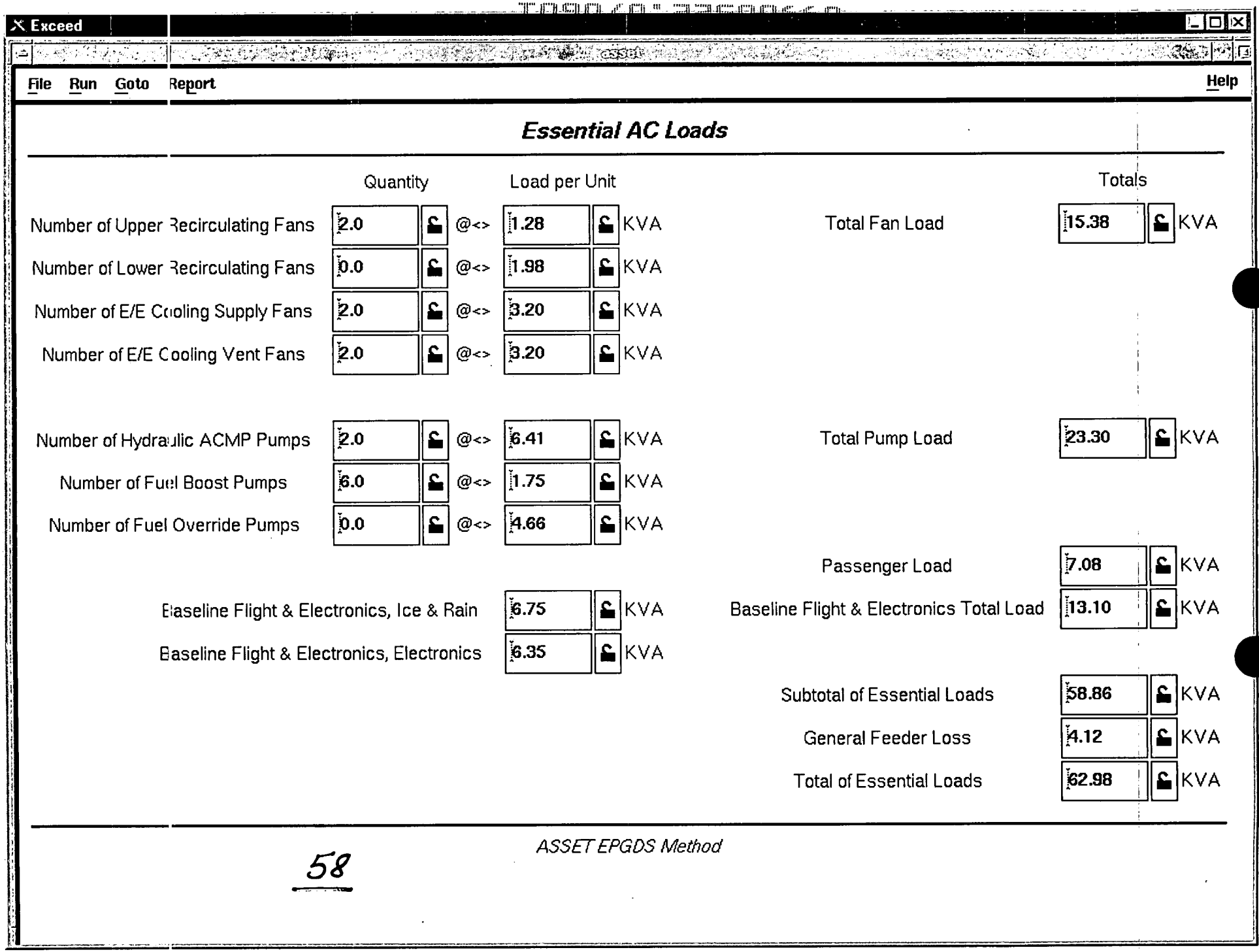
Exceed
File Run Goto Report Help
Essential AC Loads
Quantity
Load per Unit
Totals
Number of Upper Recirculating Fans 2.0 @<> 1.28 KVA
Total Fan Load 15.38 KVA
Number of Lower Recirculating Fans 0.0 @<> 1.98 KVA
Number of E/E Cooling Supply Fans 2.0 @<> 3.20 KVA
Number of E/E Cooling Vent Fans 2.0 @<> 3.20 KVA
Number of Hydraulic ACMP Pumps 2.0 @<> 6.41 KVA
Total Pump Load 23.30 KVA
Number of Fuel Boost Pumps 6.0 @<> 1.75 KVA
Number of Fuel Override Pumps 0.0 @<> 4.66 KVA
Passenger Load 7.08 KVA
Baseline Flight & Electronics, Ice & Rain 6.75 KVA
Baseline Flight & Electronics Total Load 13.10 KVA
Baseline Flight & Electronics, Electronics 6.35 KVA
Subtotal of Essential Loads 58.86 KVA
General Feeder Loss 4.12 KVA
Total of Essential Loads 62.98 KVA
ASSET EPGDS Method

FIGURE 8

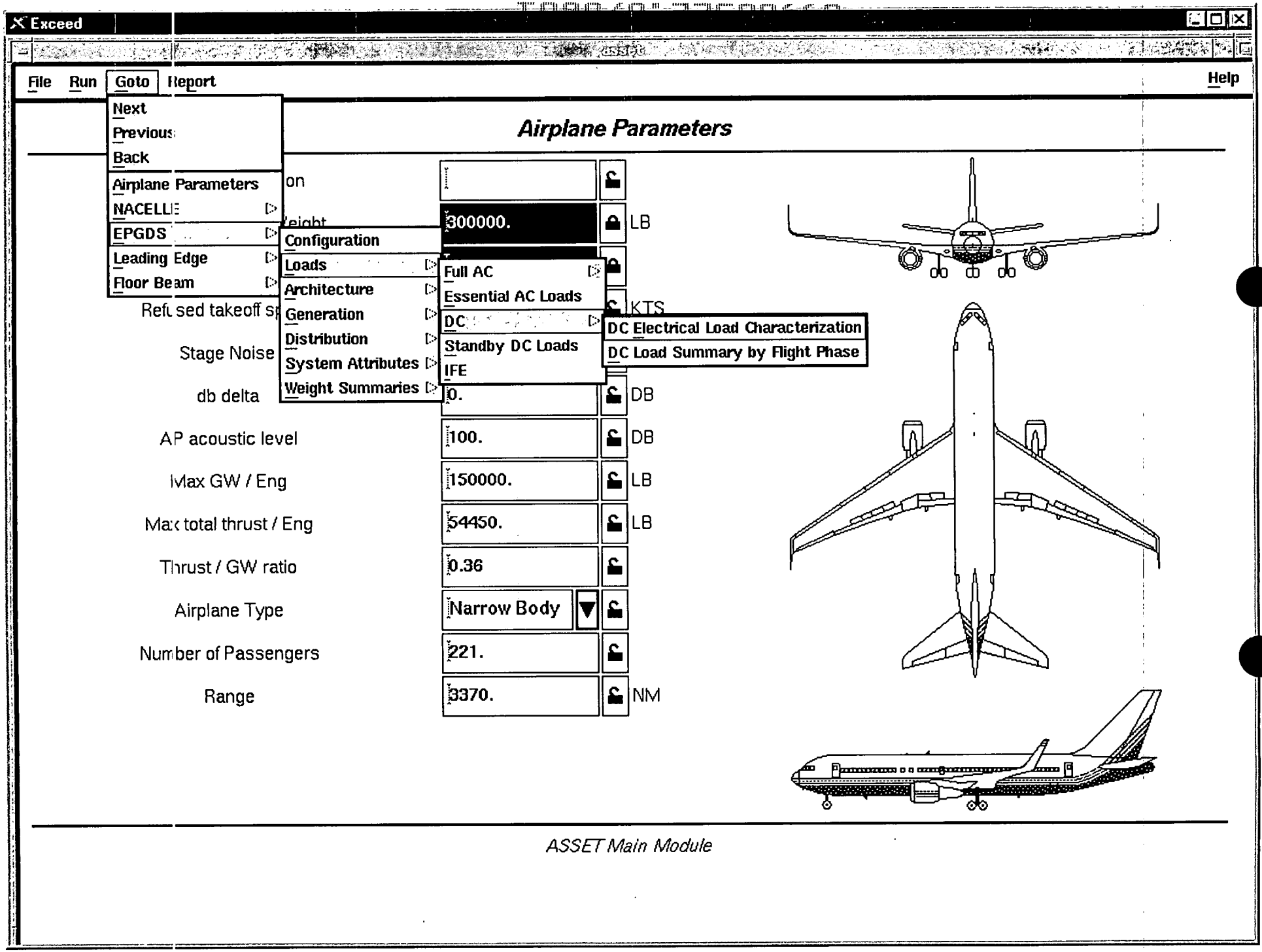
Exceed
File
Run
Goto
Report
Help
Next
Previous
Back
Airplane Parameters
NACELLE
EPGDS
Leading Edge
Floor Beam
Configuration
Loads
Architecture
Generation
Distribution
System Attributes
Weight Summaries
Full AC
Essential AC Loads
DC
Standby DC Loads
IFE
DC Electrical Load Characterization
DC Load Summary by Flight Phase
Airplane Parameters
on
300000.
LB
KTS
Stage Noise
db delta
0.
DB
AP acoustic level
100.
DB
Max GW / Eng
150000.
LB
Max total thrust / Eng
54450.
LB
Thrust / GW ratio
0.36
Airplane Type
Narrow Body
Number of Passengers
221.
Range
3370.
NM
ASSET Main Module

FIGURE 9

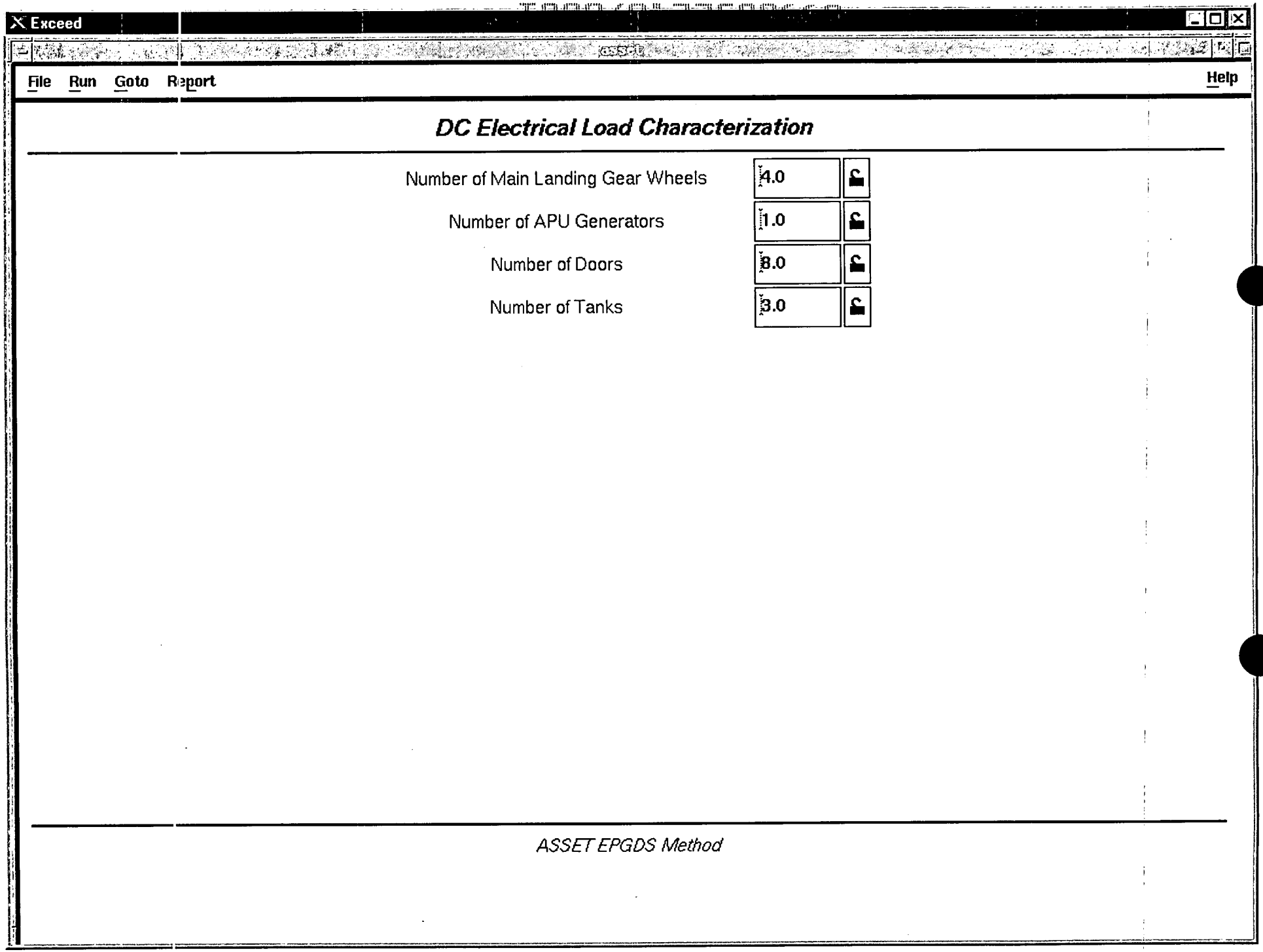
Exceed
File Run Goto Report Help
DC Electrical Load Characterization
Number of Main Landing Gear Wheels
4.0
Number of APU Generators
1.0
Number of Doors
8.0
Number of Tanks
3.0
ASSET EPGDS Method

FIGURE 10

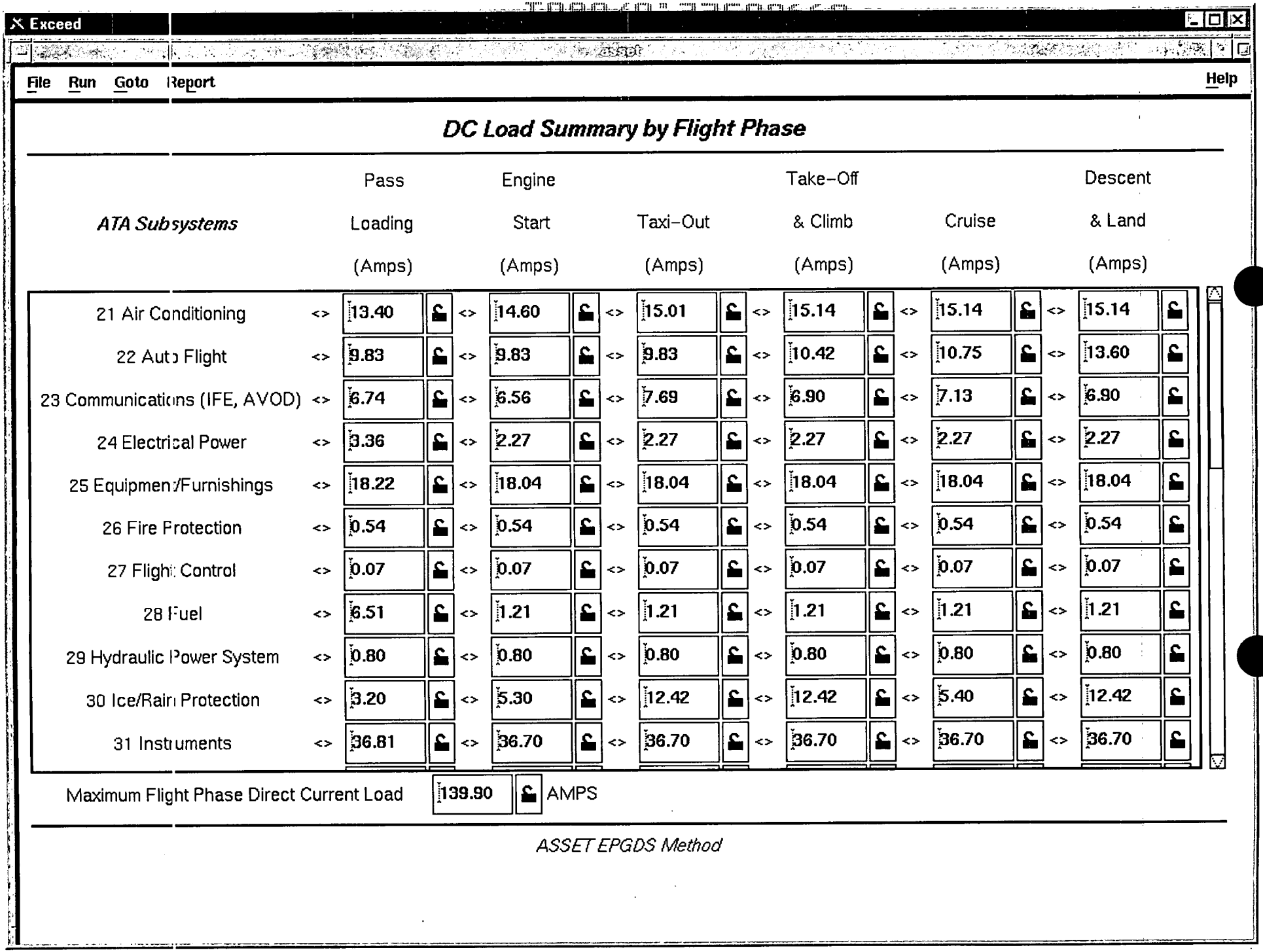
Exceed
File Run Goto Report Help
DC Load Summary by Flight Phase
ATA Subsystems
Pass Loading (Amps)
Engine Start (Amps)
Taxi-Out (Amps)
Take-Off & Climb (Amps)
Cruise (Amps)
Descent & Land (Amps)
21 Air Conditioning 13.40 14.60 15.01 15.14 15.14 15.14
22 Auto Flight 9.83 9.83 9.83 10.42 10.75 13.60
23 Communications (IFE, AVOD) 6.74 6.56 7.69 6.90 7.13 6.90
24 Electrical Power 3.36 2.27 2.27 2.27 2.27 2.27
25 Equipment/Furnishings 18.22 18.04 18.04 18.04 18.04 18.04
26 Fire Protection 0.54 0.54 0.54 0.54 0.54 0.54
27 Flight Control 0.07 0.07 0.07 0.07 0.07 0.07
28 Fuel 6.51 1.21 1.21 1.21 1.21 1.21
29 Hydraulic Power System 0.80 0.80 0.80 0.80 0.80 0.80
30 Ice/Rain Protection 3.20 5.30 12.42 12.42 5.40 12.42
31 Instruments 36.81 36.70 36.70 36.70 36.70 36.70
Maximum Flight Phase Direct Current Load 139.90 AMPS
ASSET EPGDS Method

FIGURE 11A

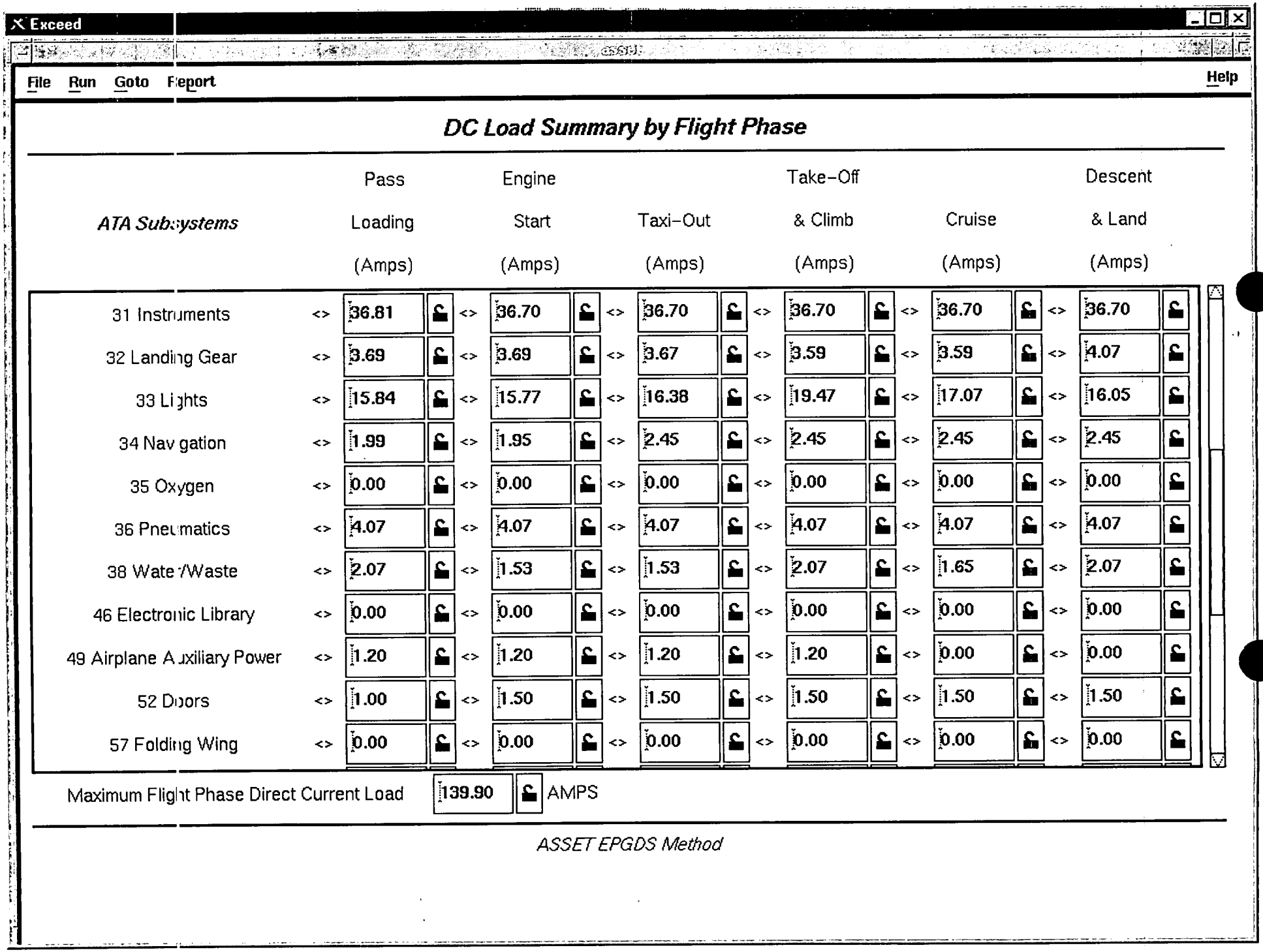
Exceed
File Run Goto Report Help
DC Load Summary by Flight Phase
ATA Subsystems
Pass Loading (Amps)
Engine Start (Amps)
Taxi-Out (Amps)
Take-Off & Climb (Amps)
Cruise (Amps)
Descent & Land (Amps)
31 Instruments 36.81 36.70 36.70 36.70 36.70 36.70
32 Landing Gear 3.69 3.69 3.67 3.59 3.59 4.07
33 Lights 15.84 15.77 16.38 19.47 17.07 16.05
34 Navigation 1.99 1.95 2.45 2.45 2.45 2.45
35 Oxygen 0.00 0.00 0.00 0.00 0.00 0.00
36 Pneumatics 4.07 4.07 4.07 4.07 4.07 4.07
38 Water/Waste 2.07 1.53 1.53 2.07 1.65 2.07
46 Electronic Library 0.00 0.00 0.00 0.00 0.00 0.00
49 Airplane Auxiliary Power 1.20 1.20 1.20 1.20 0.00 0.00
52 Doors 1.00 1.50 1.50 1.50 1.50 1.50
57 Folding Wing 0.00 0.00 0.00 0.00 0.00 0.00
Maximum Flight Phase Direct Current Load 139.90 AMPS
ASSET EPGDS Method

FIGURE 11B

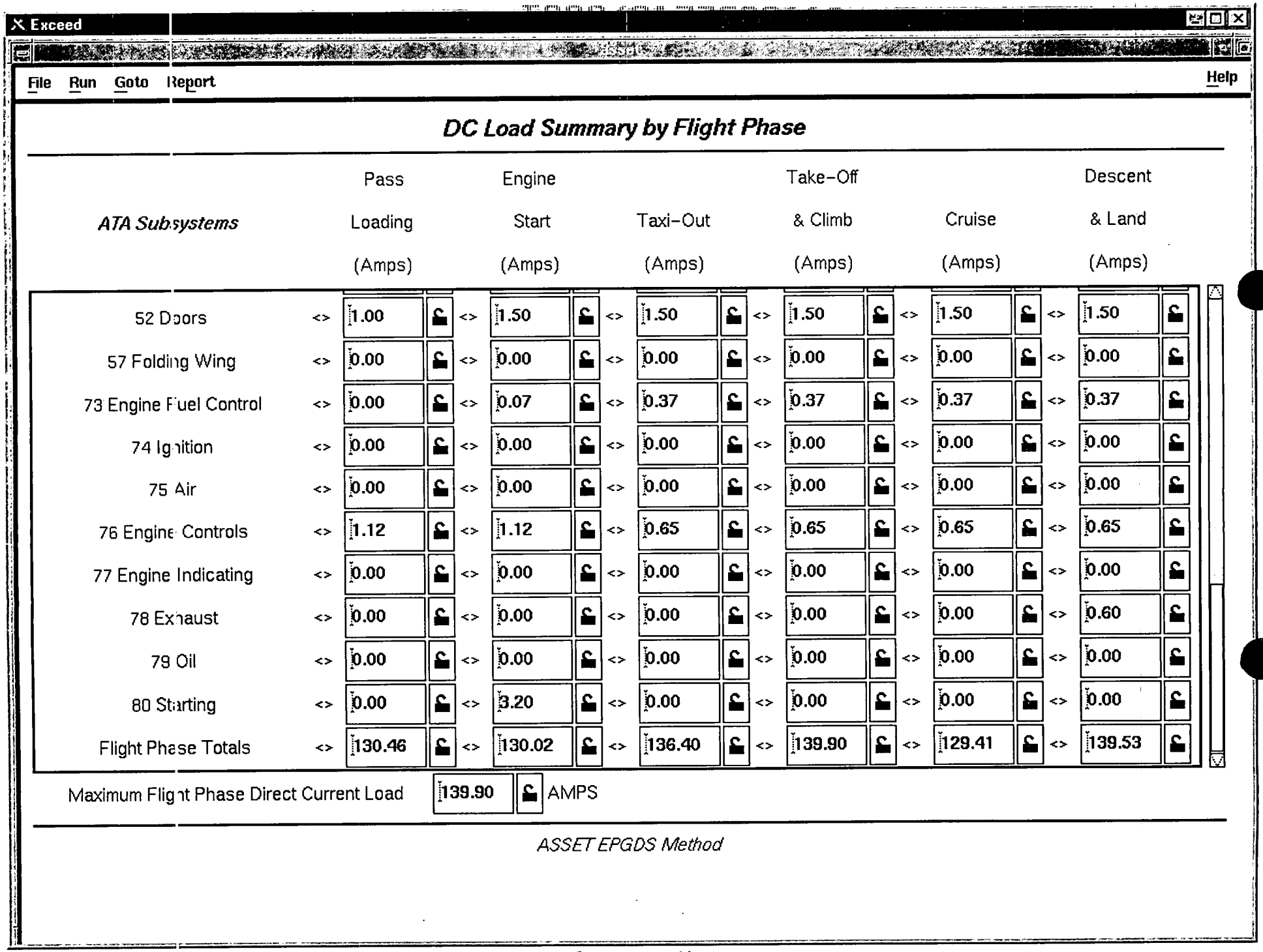
Exceed
File Run Goto Report Help
DC Load Summary by Flight Phase
ATA Subsystems
Pass Loading (Amps)
Engine Start (Amps)
Taxi-Out (Amps)
Take-Off & Climb (Amps)
Cruise (Amps)
Descent & Land (Amps)
52 Doors 1.00 1.50 1.50 1.50 1.50 1.50
57 Folding Wing 0.00 0.00 0.00 0.00 0.00 0.00
73 Engine Fuel Control 0.00 0.07 0.37 0.37 0.37 0.37
74 Ignition 0.00 0.00 0.00 0.00 0.00 0.00
75 Air 0.00 0.00 0.00 0.00 0.00 0.00
76 Engine Controls 1.12 1.12 0.65 0.65 0.65 0.65
77 Engine Indicating 0.00 0.00 0.00 0.00 0.00 0.00
78 Exhaust 0.00 0.00 0.00 0.00 0.00 0.60
79 Oil 0.00 0.00 0.00 0.00 0.00 0.00
80 Starting 0.00 3.20 0.00 0.00 0.00 0.00
Flight Phase Totals 130.46 130.02 136.40 139.90 129.41 139.53
Maximum Flight Phase Direct Current Load 139.90 AMPS
ASSET EPGDS Method

FIGURE 11C

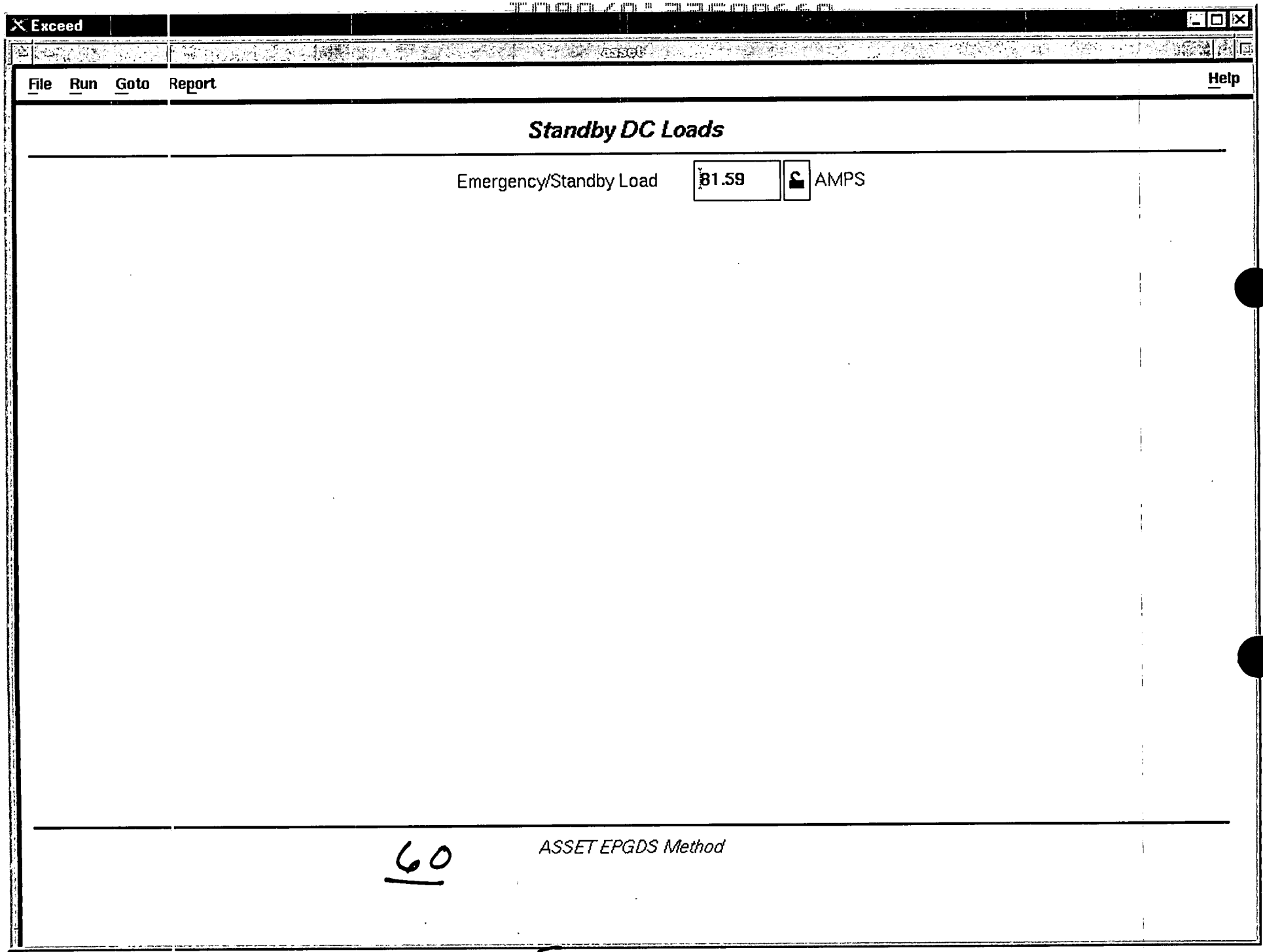
Exceed
File
Run
Goto
Report
Help
Standby DC Loads
Emergency/Standby Load
81.59
AMPS

FIGURE 12

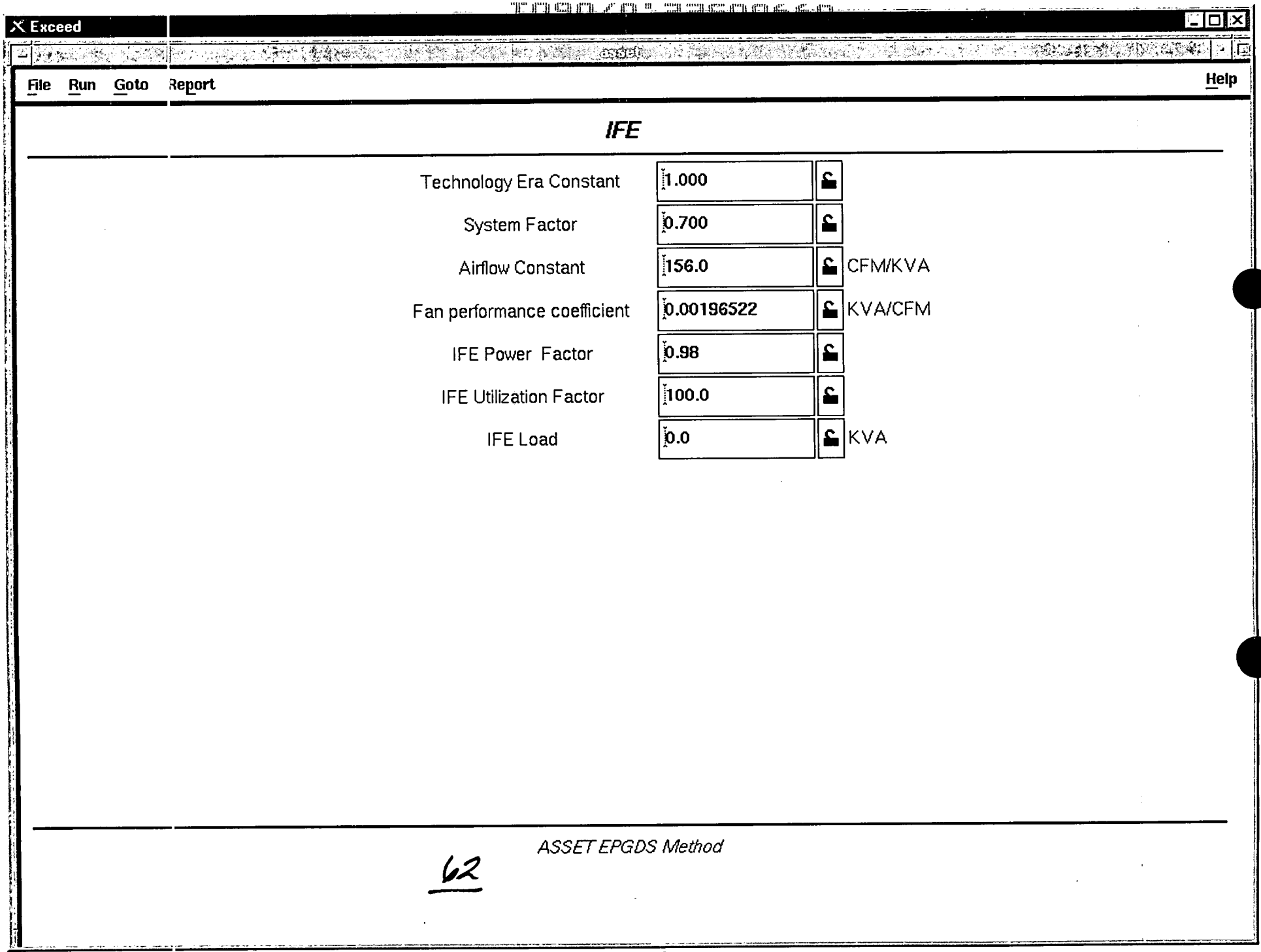
X Exceed
File Run Goto Report Help
IFE
Technology Era Constant 1.000
System Factor 0.700
Airflow Constant 156.0 CFM/KVA
Fan performance coefficient 0.00196522 KVA/CFM
IFE Power Factor 0.98
IFE Utilization Factor 100.0
IFE Load 0.0 KVA
ASSET EPGDS Method

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FIGURE 13

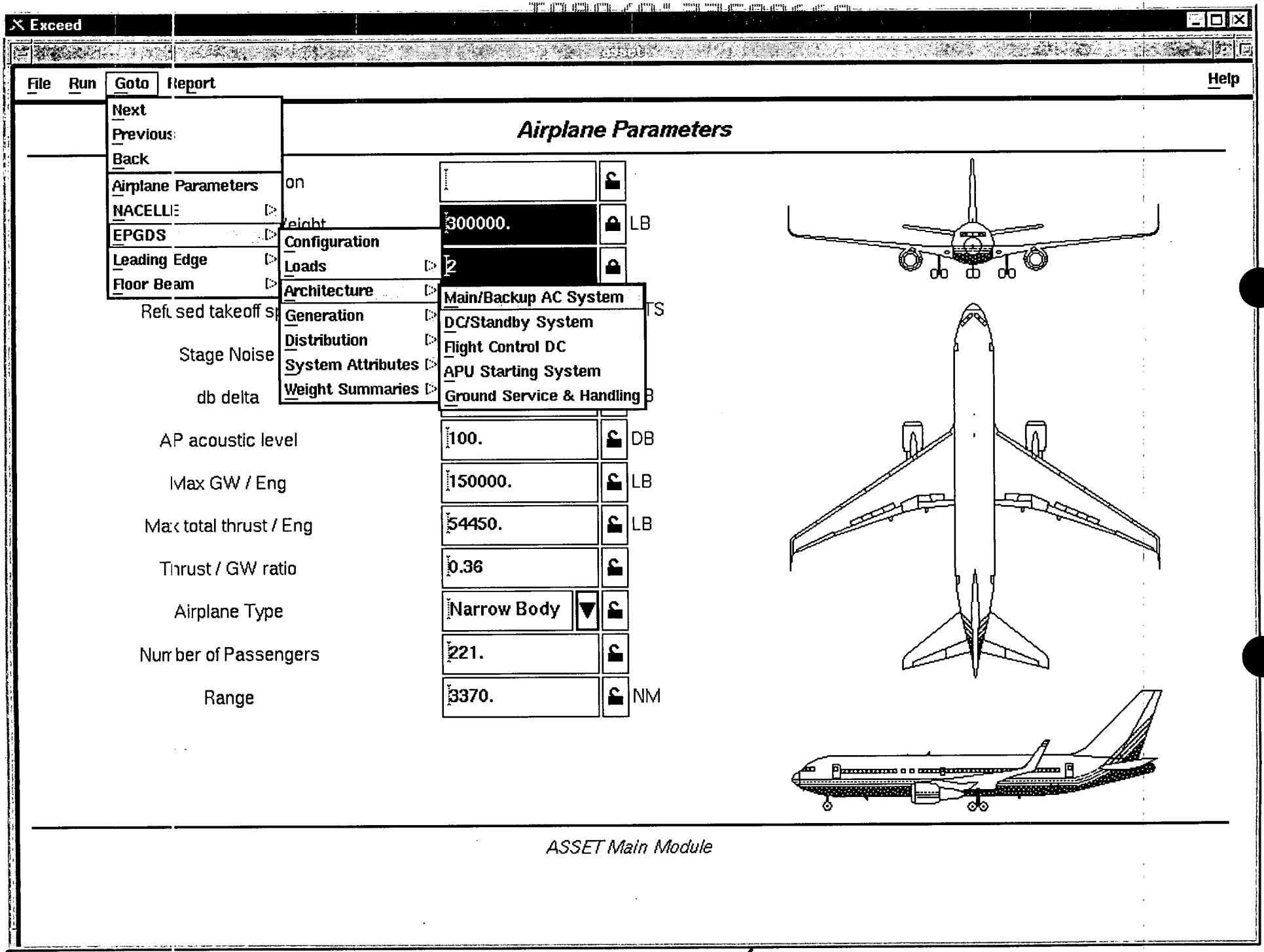

Exceed
File
Run
Goto
Report
Help
Next
Previous
Back
Airplane Parameters
NACELLE
EPGDS
Leading Edge
Floor Beam
Configuration
Loads
Architecture
Generation
Distribution
System Attributes
Weight Summaries
Main/Backup AC System
DC/Standby System
Flight Control DC
APU Starting System
Ground Service & Handling
Airplane Parameters
on
300000.
LB
2
TS
Stage Noise
db delta
AP acoustic level
100.
DB
Max GW / Eng
150000.
LB
Max total thrust / Eng
54450.
LB
Thrust / GW ratio
0.36
Airplane Type
Narrow Body
Number of Passengers
221.
Range
3370.
NM
ASSET Main Module

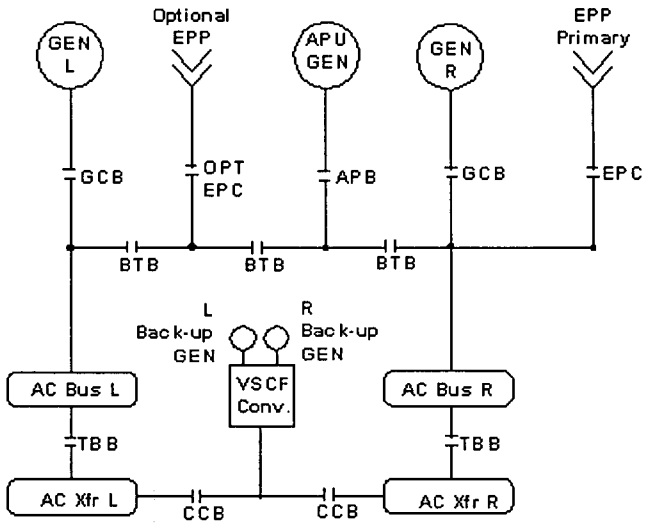
FIGURE 14

Exceed

File Run Goto Report Help

Main/Backup AC System

Twin, Fly-by-Wire, Isolated Architecture



If selected, HMG Backup System not reflected in graphics.

Main Generator Type	IDG	In-Flight APU Generator	In-flight operable
Optional External Power Panel	☑ TRUE	Backup Generator	VSCF: Stand-Alone Converter
Number of Generators per Engine	1	HMG Option?	☐ FALSE

ASSET EPGDS Method

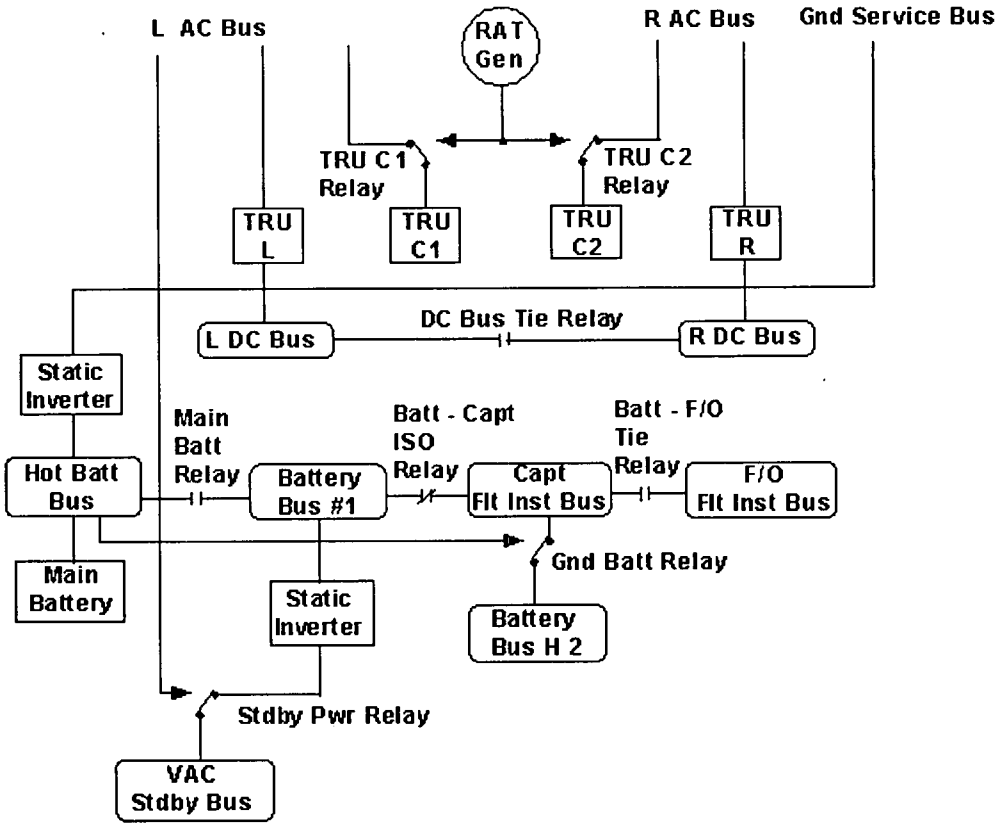
FIGURE 15

Exceed

File Run Goto Report Help

DC/Standby System

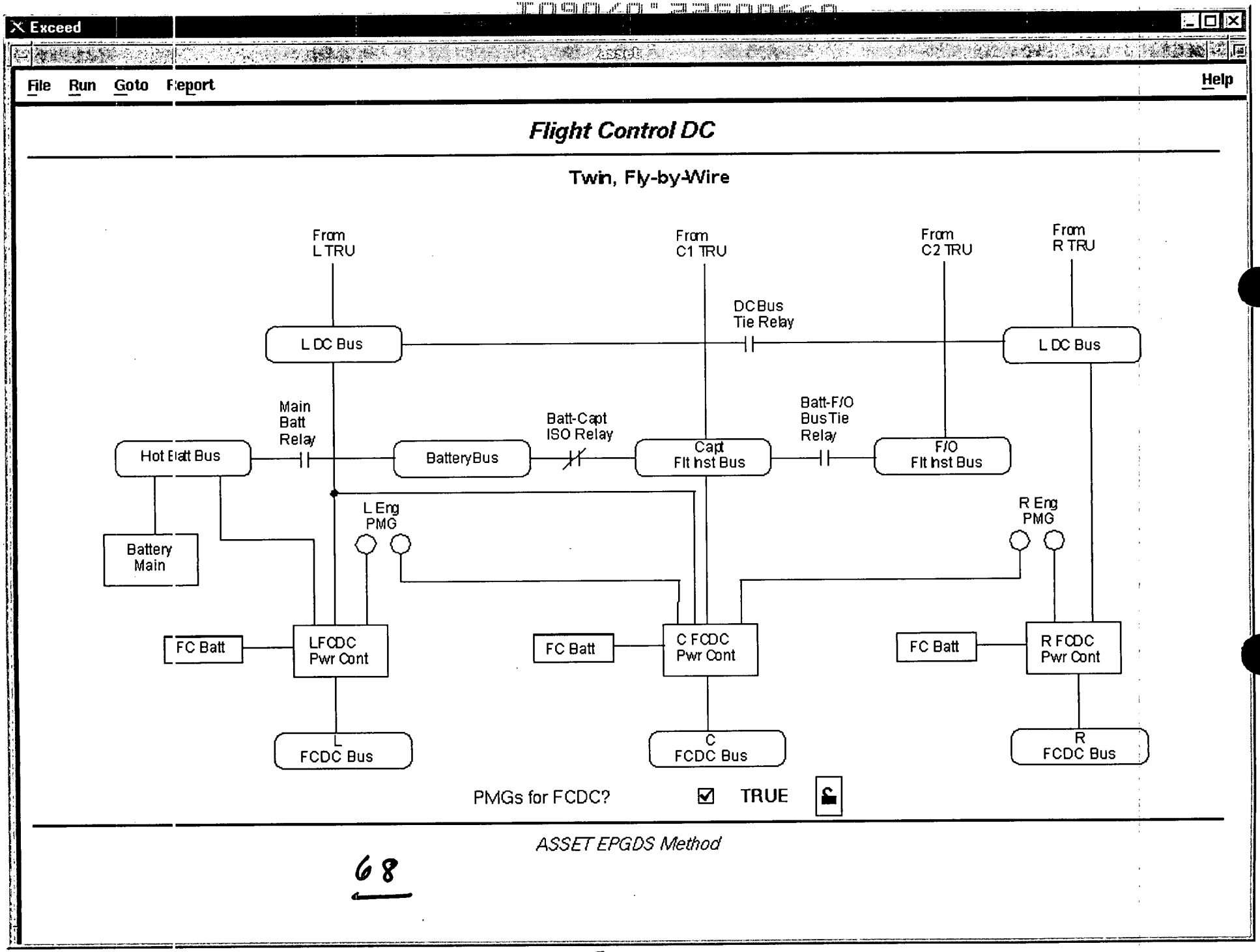
Twin, Fly-by-Wire



66

ASSET EPGDS Method

FIGURE 16



ASSET EPGDS Method

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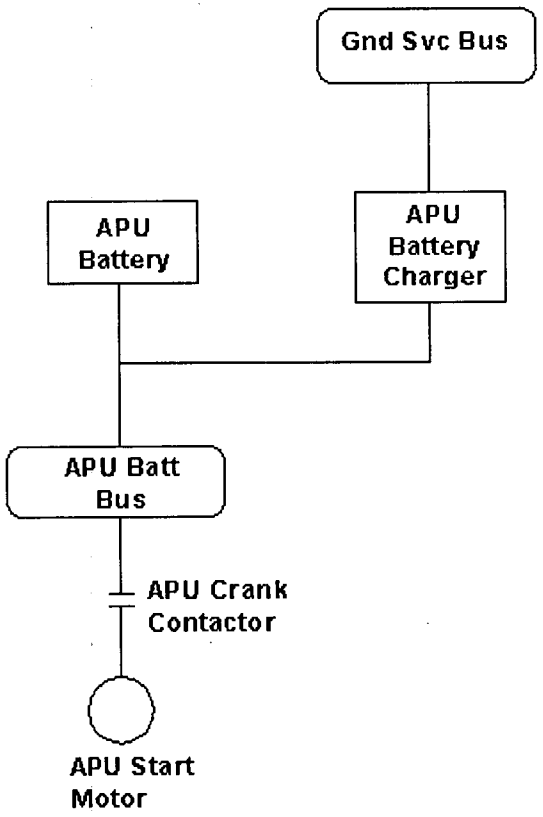
FIGURE 17

File Run Goto Report Help

APU Starting System

Dedicated APU Battery/Charger



70

APU Starting System | Dedicated APU Battery/Charger

ASSET EPGDS Method

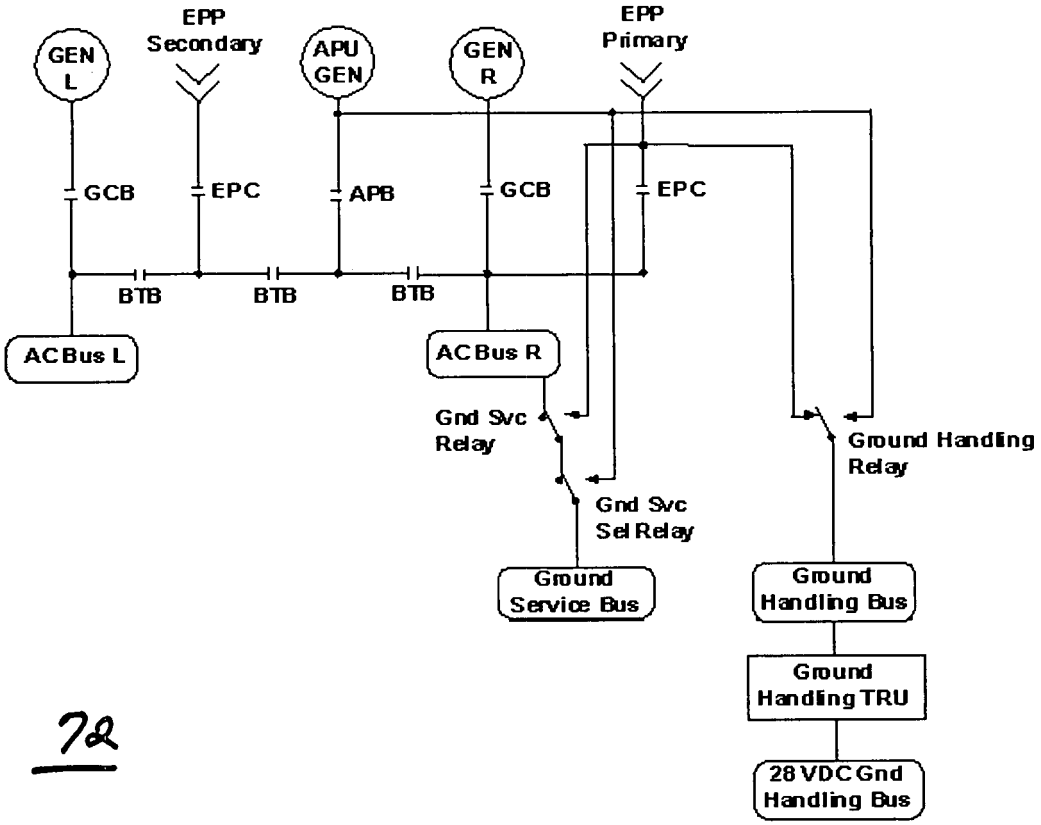
FIGURE 18

Exceed

File Run Goto Report Help

Ground Service & Handling

Twin, Fly-by-Wire and Non-Fly-by-Wire



72

ASSET EPGDS Method

FIGURE 19

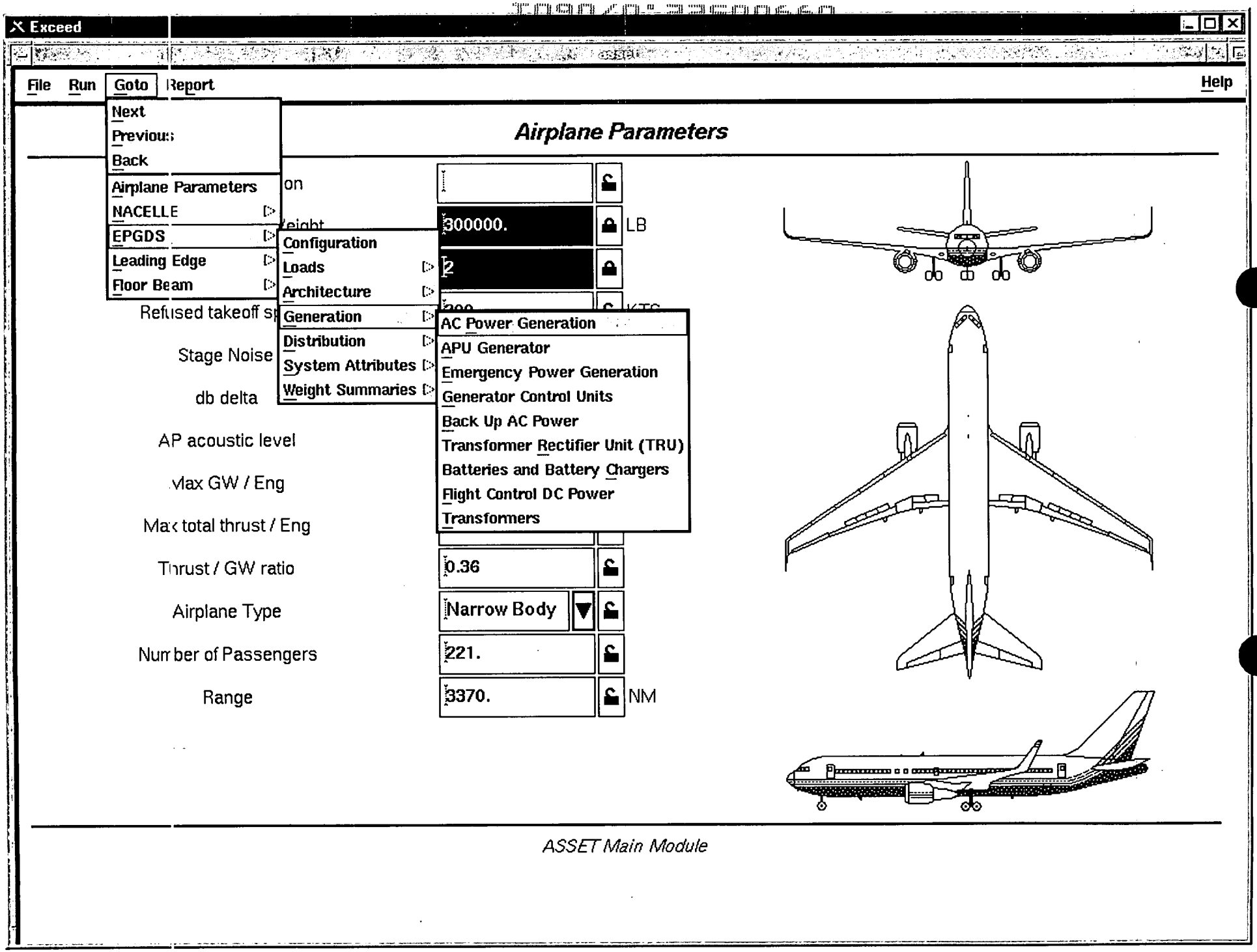

Exceed
File
Run
Goto
Report
Help
Next
Previous
Back
Airplane Parameters
NACELLE
EPGDS
Leading Edge
Floor Beam
Configuration
Loads
Architecture
Generation
Distribution
System Attributes
Weight Summaries
AC Power Generation
APU Generator
Emergency Power Generation
Generator Control Units
Back Up AC Power
Transformer Rectifier Unit (TRU)
Batteries and Battery Chargers
Flight Control DC Power
Transformers
Airplane Parameters
Refused takeoff sp
Stage Noise
db delta
AP acoustic level
Max GW / Eng
Max total thrust / Eng
Thrust / GW ratio
Airplane Type
Number of Passengers
Range
300000.
LB
2
0.36
Narrow Body
221.
3370.
NM
ASSET Main Module

FIGURE 20

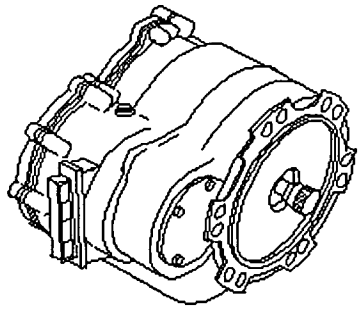
Exceed

File Run Goto Report Help

AC Power Generation

Generator Input Speed	24000.	RPM
Method of Cooling	Oil	
Generator Capacity	90.0	KVA
Main AC Power Generator Weight	110.5	LB
VSCF Converter Config.	None	
Maximum Converter Load	0.0	KVA
Main Converter Unit Weight	0.0	LB

IDG



ATA Chapter	Section Title	Motor Controller Load KVA	Motor Controller Weight LB
		0.0	0.0
		0.0	0.0
		0.0	0.0
		0.0	0.0
		0.0	0.0
		0.0	0.0

IDG Hydraulics: High Power Density Hyds

Total Motor Controller Weight: 0.0 LB

ASSET EPGDS Method

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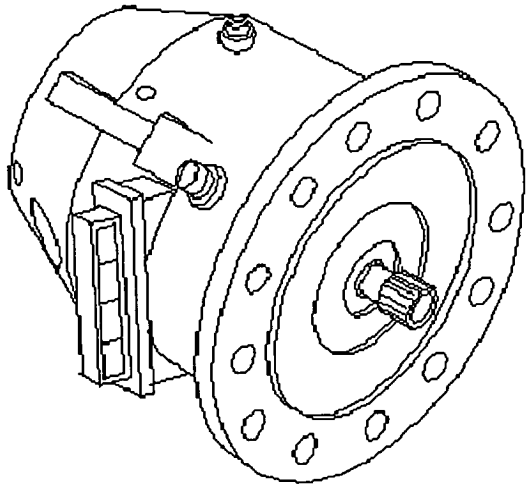
FIGURE 21

Exceed

File Run Goto Report Help

APU Generator



In-Flight Operable APU	☑ TRUE	
APU Generator Capacity	90.0	KVA
APU Generator Weight	64.2	LB
Number of APU Generators	1.0	

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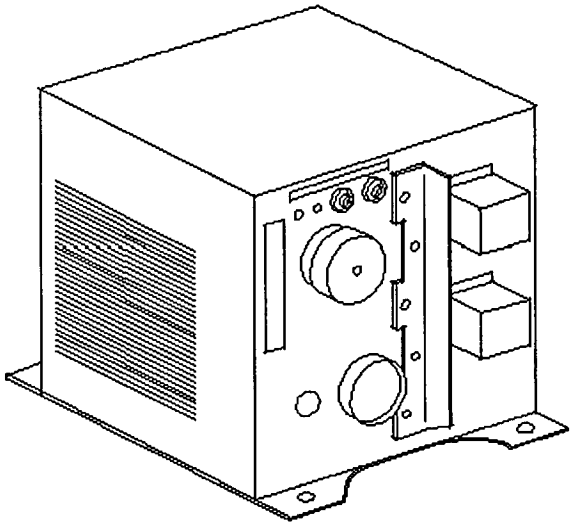
ASSET EPGDS Method

FIGURE 22

Exceed

File Run Goto Report Help

Generator Control Units



78

	Main AC		APU		RAT	
Unit Size	3.0	<>	3.0	<>	3.0	MCU
Unit Weight	5.0	<>	5.0	<>	5.0	LB

ASSET EPGDS Method

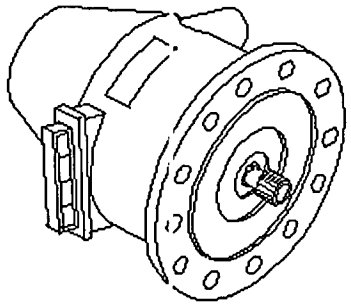
FIGURE 23

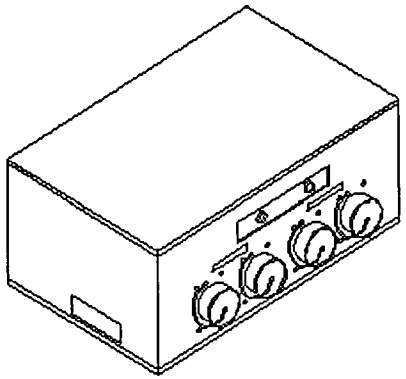
Exceed

File Run Goto Report Help

Back Up AC Power

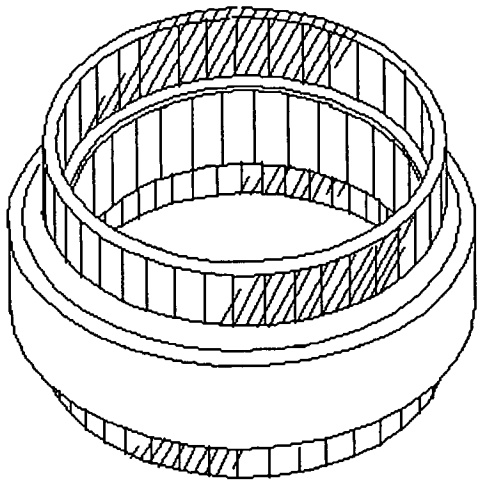
VSCF





Generator Type	VSCF System	
Capacity	18.8	KVA
Cooling Method	Air	
Input speed	12000.0	RPM
Generator Weight	38.1	LB
Converter Configuration	Stand Alone Converter	
Converter Weight	43.1	LB

PMGs



Number/Engine	2	
PMG Configuration	Integrated with Back Up Generator	
PMG Unit Weight	2.5	LB

ASSET EPGDS Method

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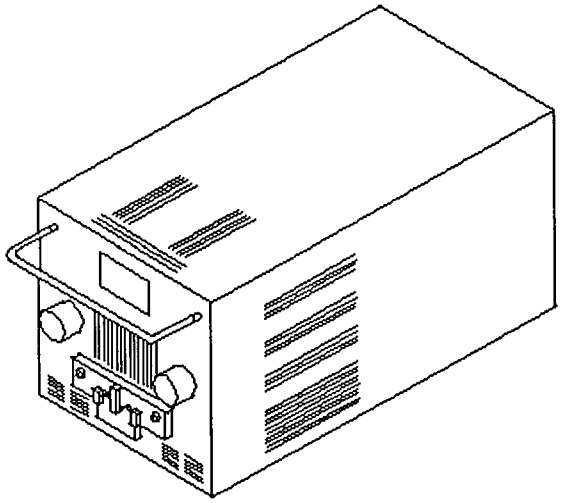
FIGURE 24

Exceed

File Run Goto Report Help

Transformer Rectifier Unit (TRU)



Number of TRUs	3.0	
DC Output	150.0	AMPS
Efficiency	82.0	%
TRU Weight	10.7	LB

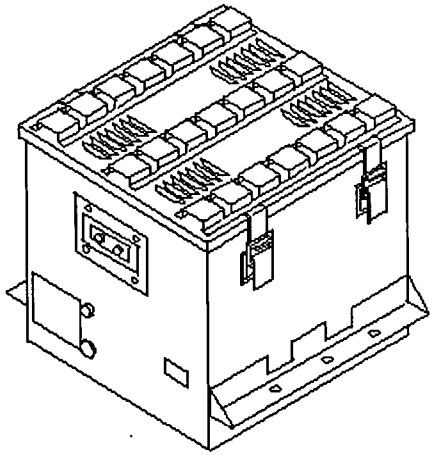
ASSET EPGDS Method

FIGURE 25

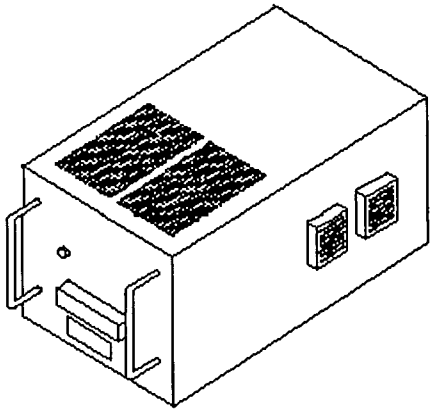
Exceed

File Run Goto Report Help

Batteries and Battery Chargers



Batteries



Battery Chargers

MAIN Battery

Nominal Capacity	47.0	AMP-HRS	Output Capacity	60.0	AMPS
Battery Weight	106.0	LB	Battery Charger Weight	13.0	LB

APU Battery

Nominal Capacity	47.0	AMP-HRS	Output Capacity	60.0	AMPS
Battery Weight	106.0	LB	Battery Charger Weight	13.0	LB

ASSET EPGDS Method

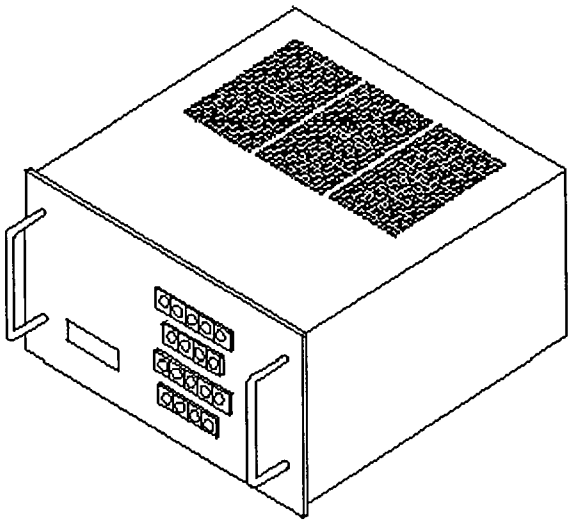
FIGURE 26

X Exceed

File Run Goto Report Help

Flight Control DC Power

Power Supply Assemblies (PSAs)



Output Power	900.0	WATTS	Number of Dedicated Batteries	3	
Converter Architecture	Dual Converter		PSA Battery Unit Weight	14.3	LB
PSA Cabinet Weight	35.0	LB			

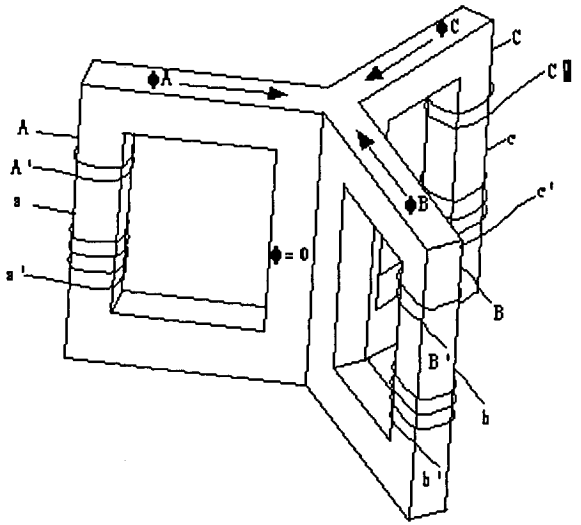
ASSET EPGDS Method

FIGURE 27

Exceed

File Run Goto Report Help

Transformers



Step–Up Transformer Capacity	0.0	KVA
Step–Up Transformer	0.0	LB
Step–Down Transformer Capacity	0.0	KVA
Step Down Transformer Weight	0.0	LB

ASSET EPGDS Method

FIGURE 28

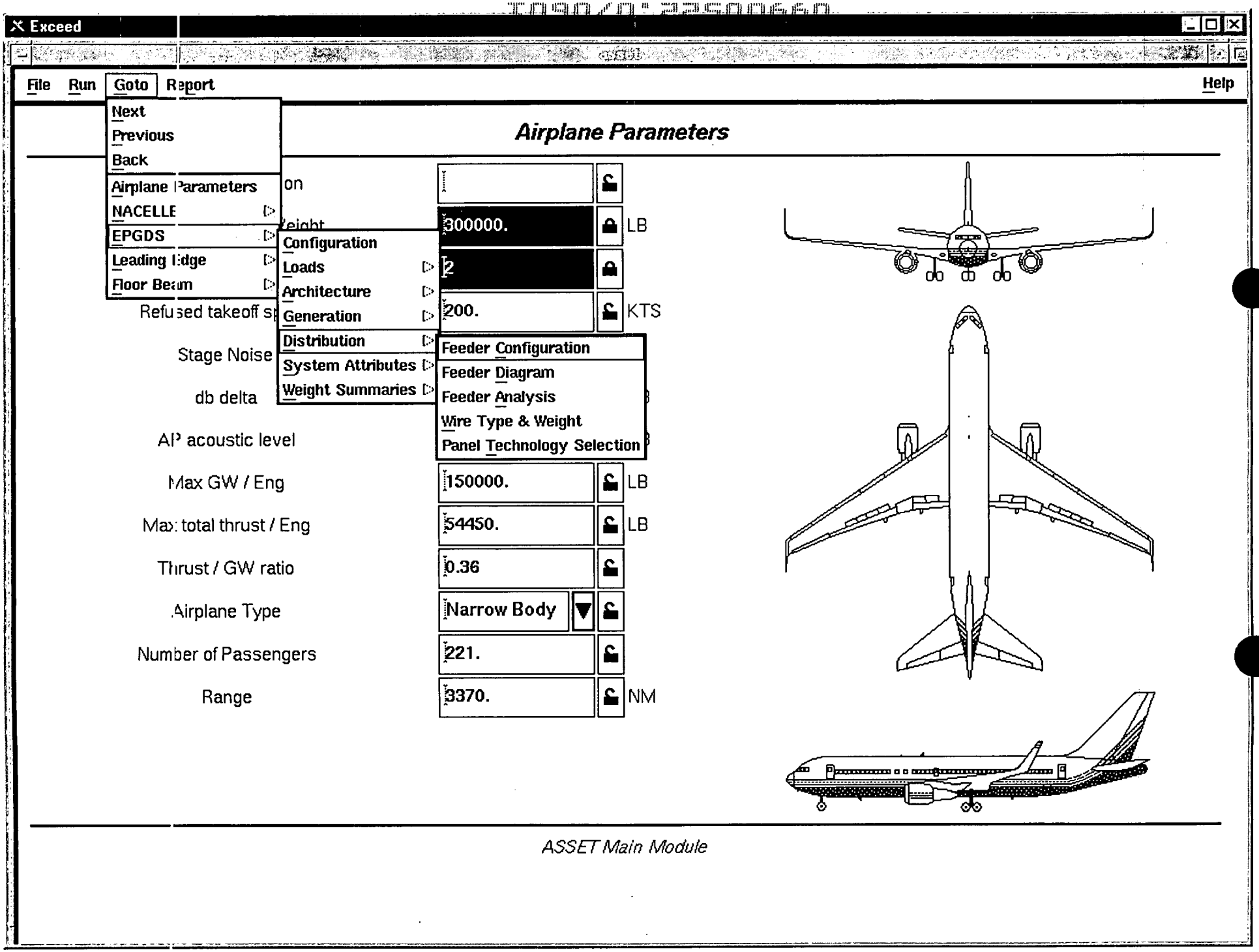

Exceed
File
Run
Goto
Report
Help
Next
Previous
Back
Airplane Parameters
NACELLE
EPGDS
Leading Edge
Floor Beam
Configuration
Loads
Architecture
Generation
Distribution
System Attributes
Weight Summaries
Feeder Configuration
Feeder Diagram
Feeder Analysis
Wire Type & Weight
Panel Technology Selection
Airplane Parameters
on
300000.
LB
2
200.
KTS
Refused takeoff s
Stage Noise
db delta
AP acoustic level
Max GW / Eng
150000.
LB
Max total thrust / Eng
54450.
LB
Thrust / GW ratio
0.36
Airplane Type
Narrow Body
Number of Passengers
221.
Range
3370.
NM
ASSET Main Module

FIGURE 29

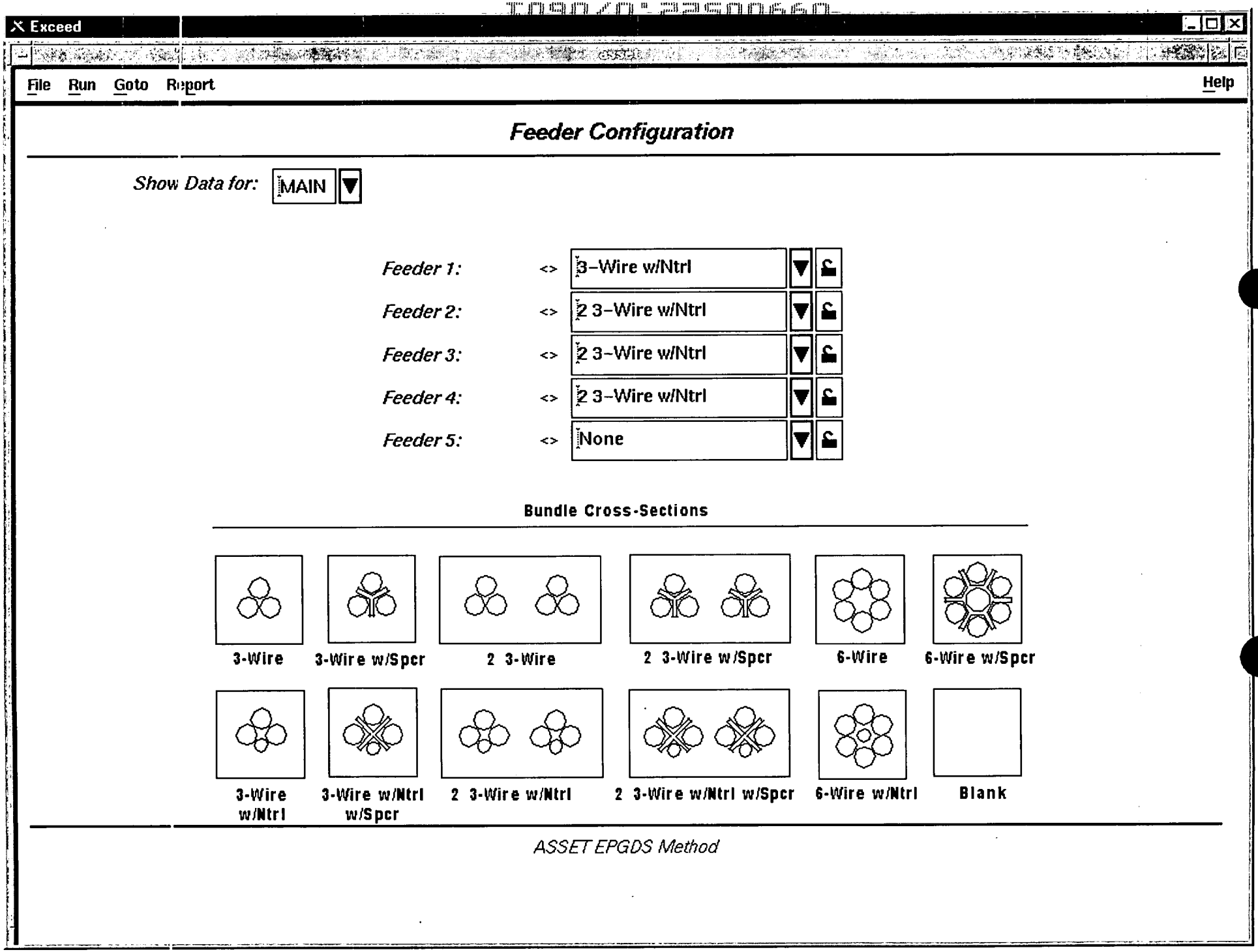

Exceed
File Run Goto Report Help
Feeder Configuration
Show Data for: MAIN
Feeder 1: <> 3-Wire w/Ntrl
Feeder 2: <> 2 3-Wire w/Ntrl
Feeder 3: <> 2 3-Wire w/Ntrl
Feeder 4: <> 2 3-Wire w/Ntrl
Feeder 5: <> None
Bundle Cross-Sections
3-Wire
3-Wire w/Spcr
2 3-Wire
2 3-Wire w/Spcr
6-Wire
6-Wire w/Spcr
3-Wire w/Ntrl
3-Wire w/Ntrl w/Spcr
2 3-Wire w/Ntrl
2 3-Wire w/Ntrl w/Spcr
6-Wire w/Ntrl
Blank
ASSET EPGDS Method

FIGURE 30

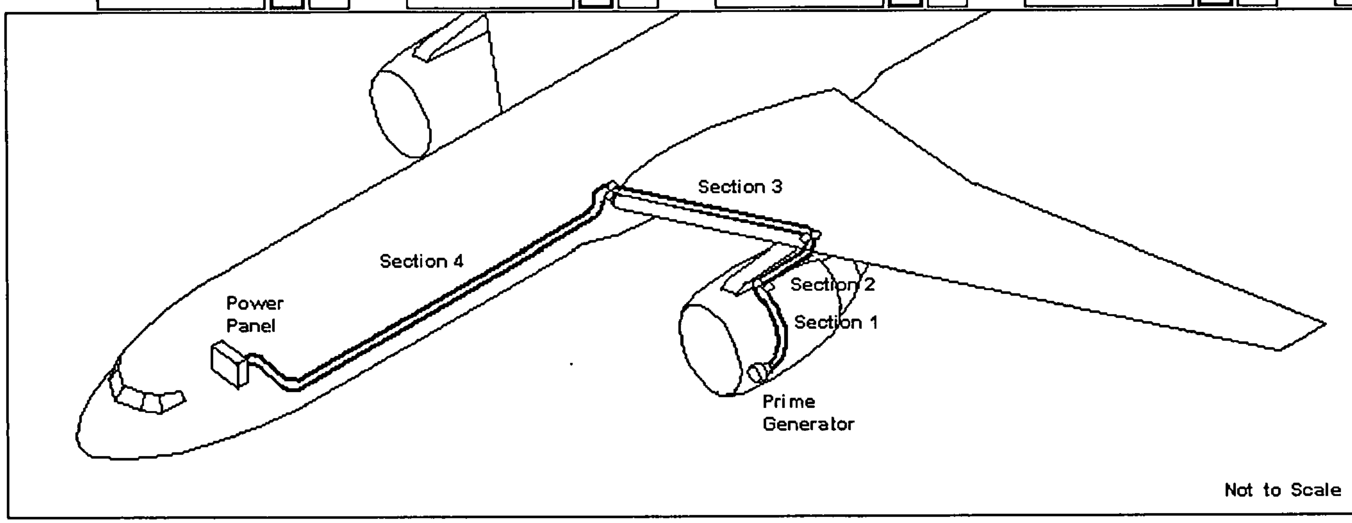
Exceed

File Run Goto Report Help

Feeder Diagram

Show Data for: MAIN

	Feeder 1	Feeder 2	Feeder 3	Feeder 4	Feeder 5
Material	CU	CU	AL	AL	None
Gage	3/0	4	2	4	None
	Neutral 1	**Neutral 2**	**Neutral 3**	**Neutral 4**	**Neutral 5**
Material	CU	CU	AL	AL	None
Gage	1/0	8	6	8	None



ASSET EPGDS Method

FIGURE 31

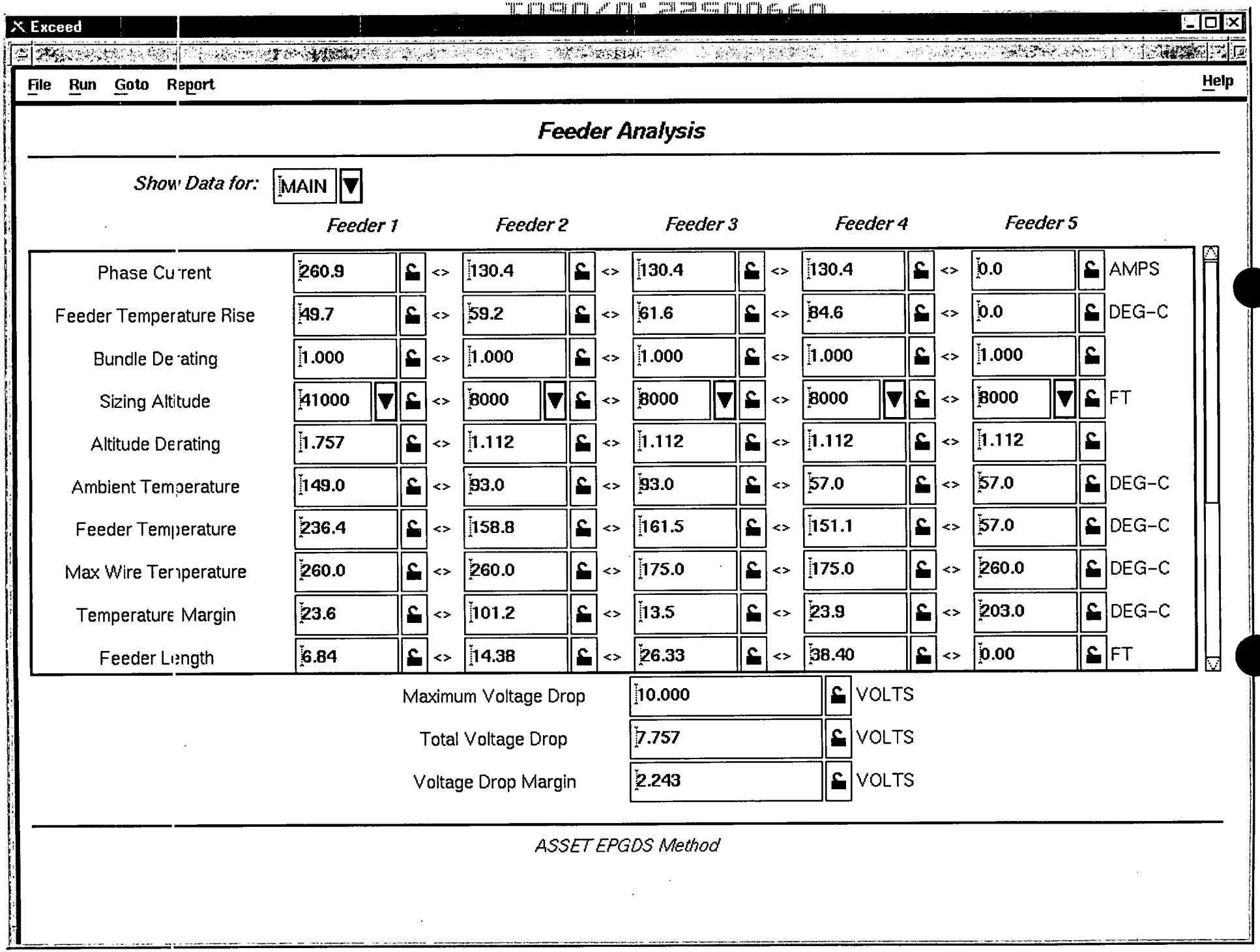

X Exceed
File Run Goto Report Help
Feeder Analysis
Show Data for: MAIN
Feeder 1 Feeder 2 Feeder 3 Feeder 4 Feeder 5
Phase Current 260.9 <> 130.4 <> 130.4 <> 130.4 <> 0.0 AMPS
Feeder Temperature Rise 49.7 <> 59.2 <> 61.6 <> 84.6 <> 0.0 DEG-C
Bundle Derating 1.000 <> 1.000 <> 1.000 <> 1.000 <> 1.000
Sizing Altitude 41000 <> 8000 <> 8000 <> 8000 <> 8000 FT
Altitude Derating 1.757 <> 1.112 <> 1.112 <> 1.112 <> 1.112
Ambient Temperature 149.0 <> 93.0 <> 93.0 <> 57.0 <> 57.0 DEG-C
Feeder Temperature 236.4 <> 158.8 <> 161.5 <> 151.1 <> 57.0 DEG-C
Max Wire Temperature 260.0 <> 260.0 <> 175.0 <> 175.0 <> 260.0 DEG-C
Temperature Margin 23.6 <> 101.2 <> 13.5 <> 23.9 <> 203.0 DEG-C
Feeder Length 6.84 <> 14.38 <> 26.33 <> 38.40 <> 0.00 FT
Maximum Voltage Drop 10.000 VOLTS
Total Voltage Drop 7.757 VOLTS
Voltage Drop Margin 2.243 VOLTS
ASSET EPGDS Method

FIGURE 32

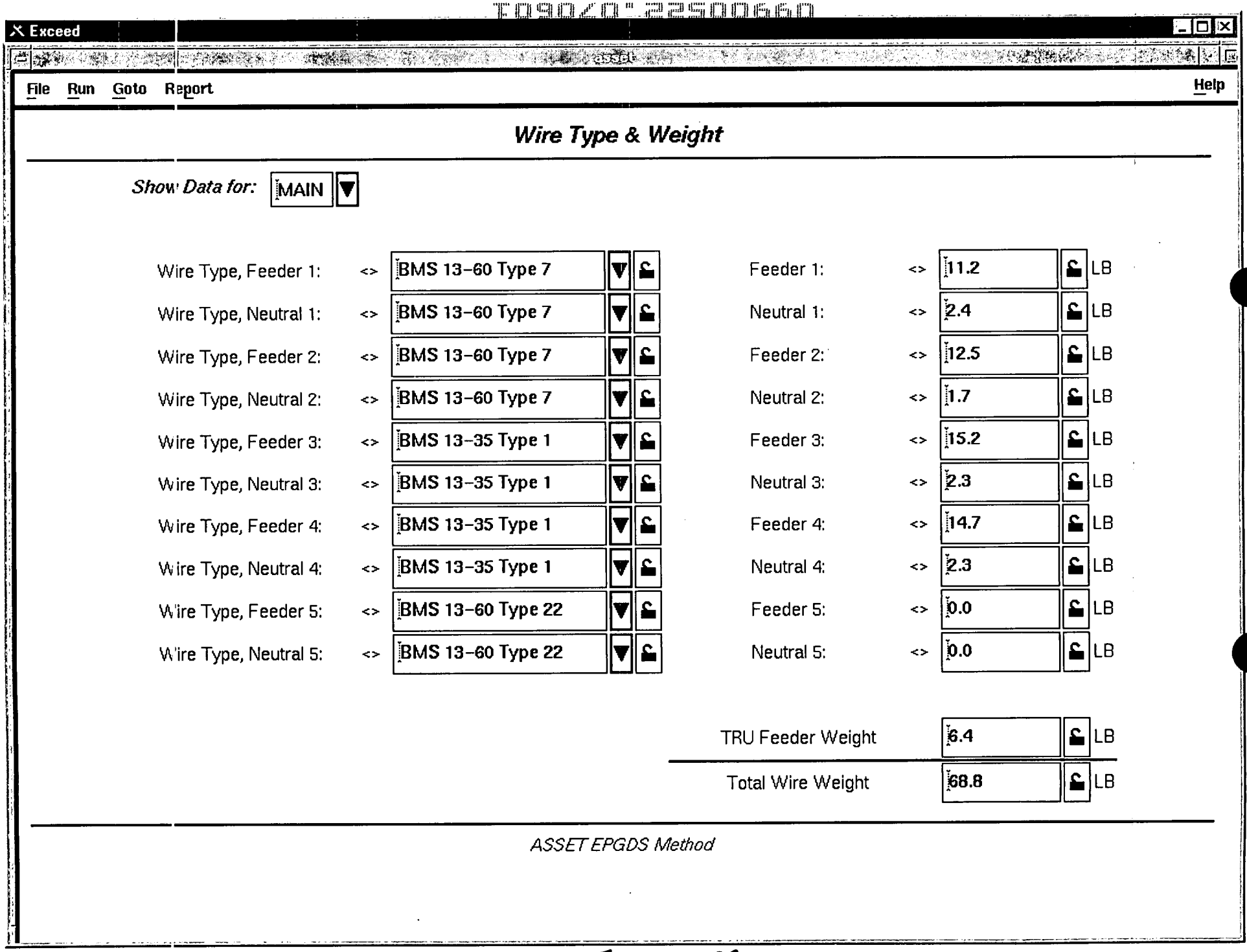

Exceed
File Run Goto Report Help
Wire Type & Weight
Show Data for: MAIN
Wire Type, Feeder 1: <> BMS 13-60 Type 7
Wire Type, Neutral 1: <> BMS 13-60 Type 7
Wire Type, Feeder 2: <> BMS 13-60 Type 7
Wire Type, Neutral 2: <> BMS 13-60 Type 7
Wire Type, Feeder 3: <> BMS 13-35 Type 1
Wire Type, Neutral 3: <> BMS 13-35 Type 1
Wire Type, Feeder 4: <> BMS 13-35 Type 1
Wire Type, Neutral 4: <> BMS 13-35 Type 1
Wire Type, Feeder 5: <> BMS 13-60 Type 22
Wire Type, Neutral 5: <> BMS 13-60 Type 22
Feeder 1: <> 11.2 LB
Neutral 1: <> 2.4 LB
Feeder 2: <> 12.5 LB
Neutral 2: <> 1.7 LB
Feeder 3: <> 15.2 LB
Neutral 3: <> 2.3 LB
Feeder 4: <> 14.7 LB
Neutral 4: <> 2.3 LB
Feeder 5: <> 0.0 LB
Neutral 5: <> 0.0 LB
TRU Feeder Weight 6.4 LB
Total Wire Weight 68.8 LB
ASSET EPGDS Method

FIGURE 33

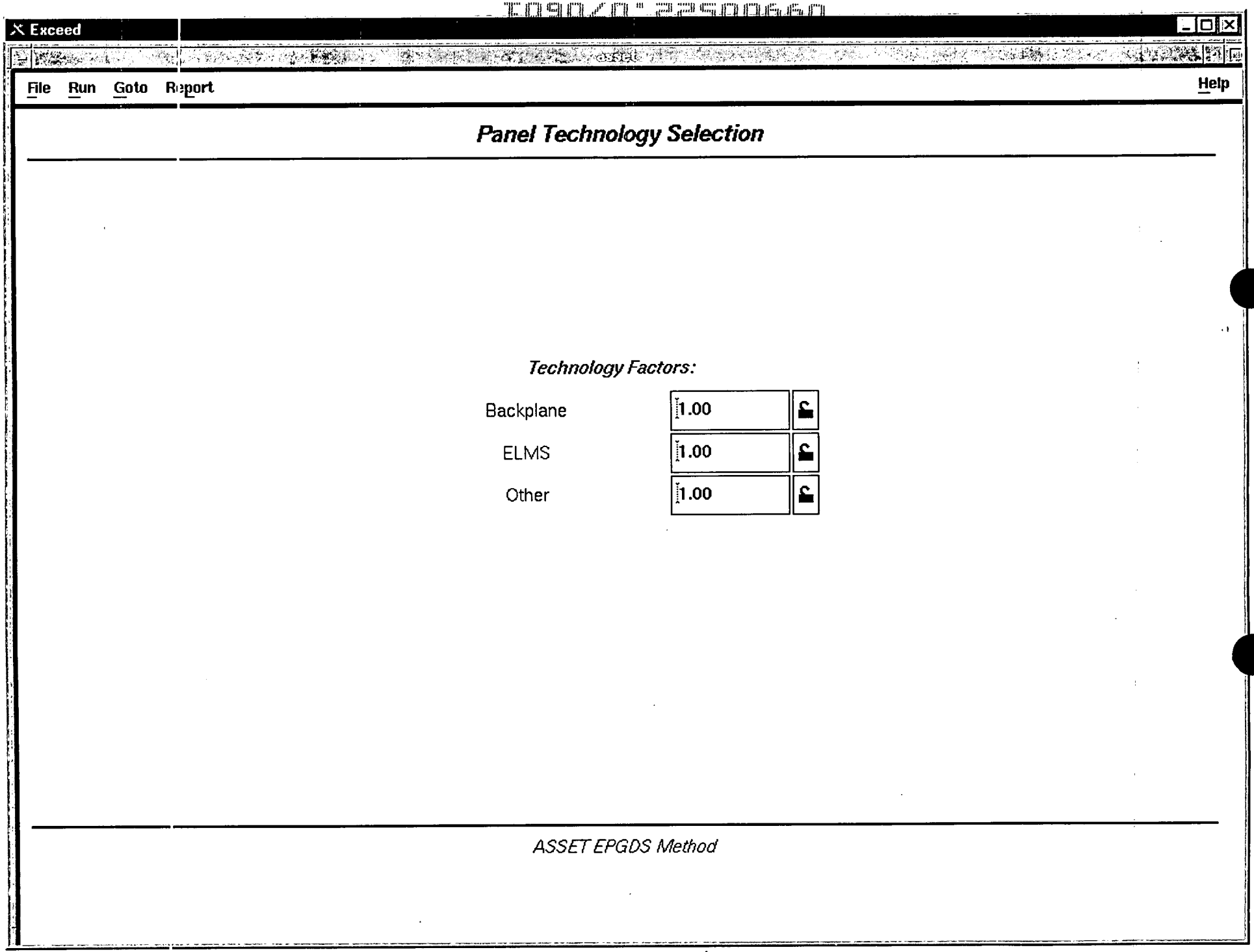

Exceed
File
Run
Goto
Report
Help
Panel Technology Selection
Technology Factors:
Backplane
1.00
ELMS
1.00
Other
1.00
ASSET EPGDS Method

FIGURE 34

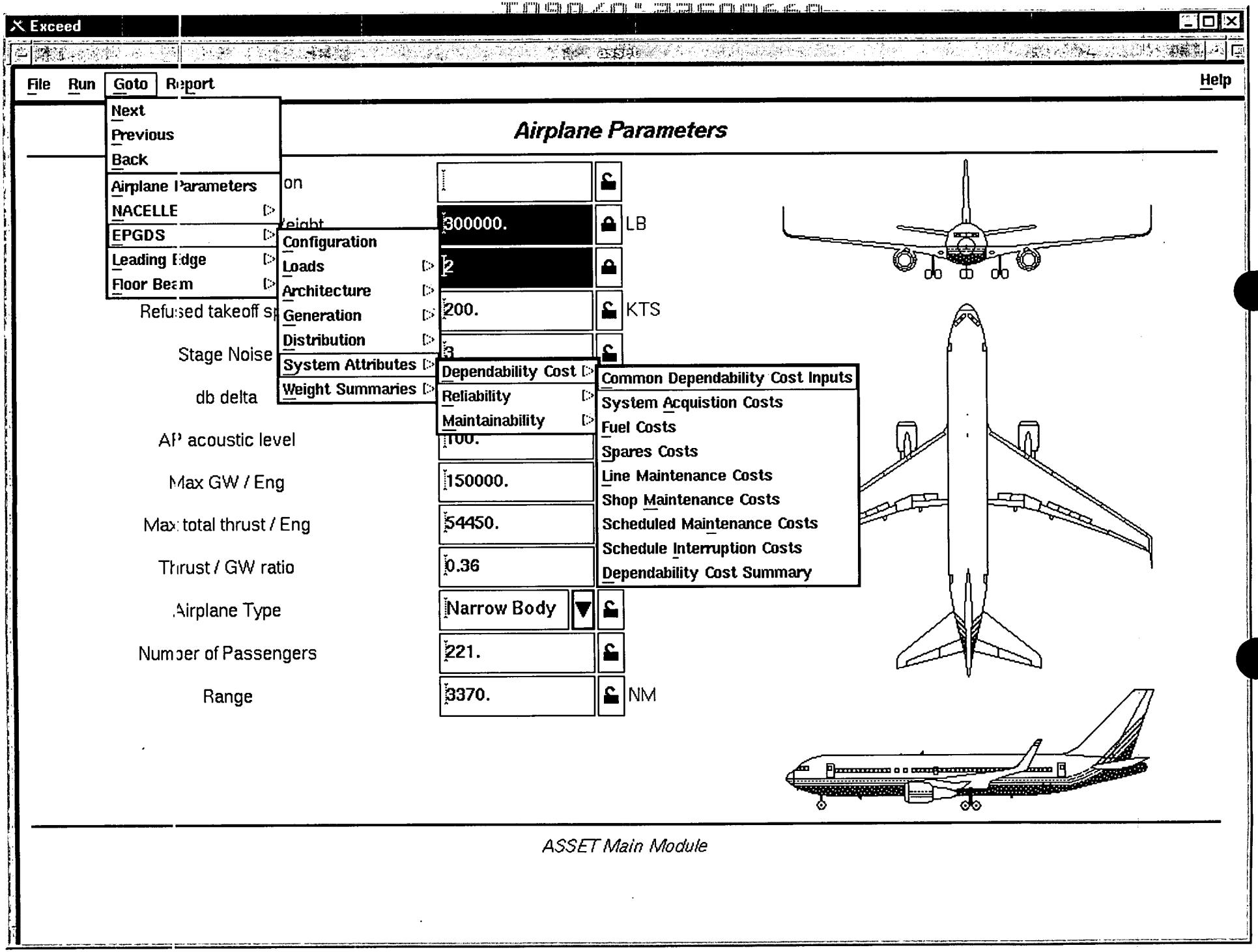

Exceed
File
Run
Goto
Report
Help
Next
Previous
Back
Airplane Parameters
NACELLE
EPGDS
Leading Edge
Floor Beam
Configuration
Loads
Architecture
Generation
Distribution
System Attributes
Weight Summaries
Dependability Cost
Reliability
Maintainability
Common Dependability Cost Inputs
System Acquistion Costs
Fuel Costs
Spares Costs
Line Maintenance Costs
Shop Maintenance Costs
Scheduled Maintenance Costs
Schedule Interruption Costs
Dependability Cost Summary
Airplane Parameters
Refused takeoff sp
Stage Noise
db delta
AP acoustic level
Max GW / Eng
Max total thrust / Eng
Thrust / GW ratio
Airplane Type
Number of Passengers
Range
300000.
LB
200.
KTS
100.
150000.
54450.
0.36
Narrow Body
221.
3370.
NM
ASSET Main Module

FIGURE 35

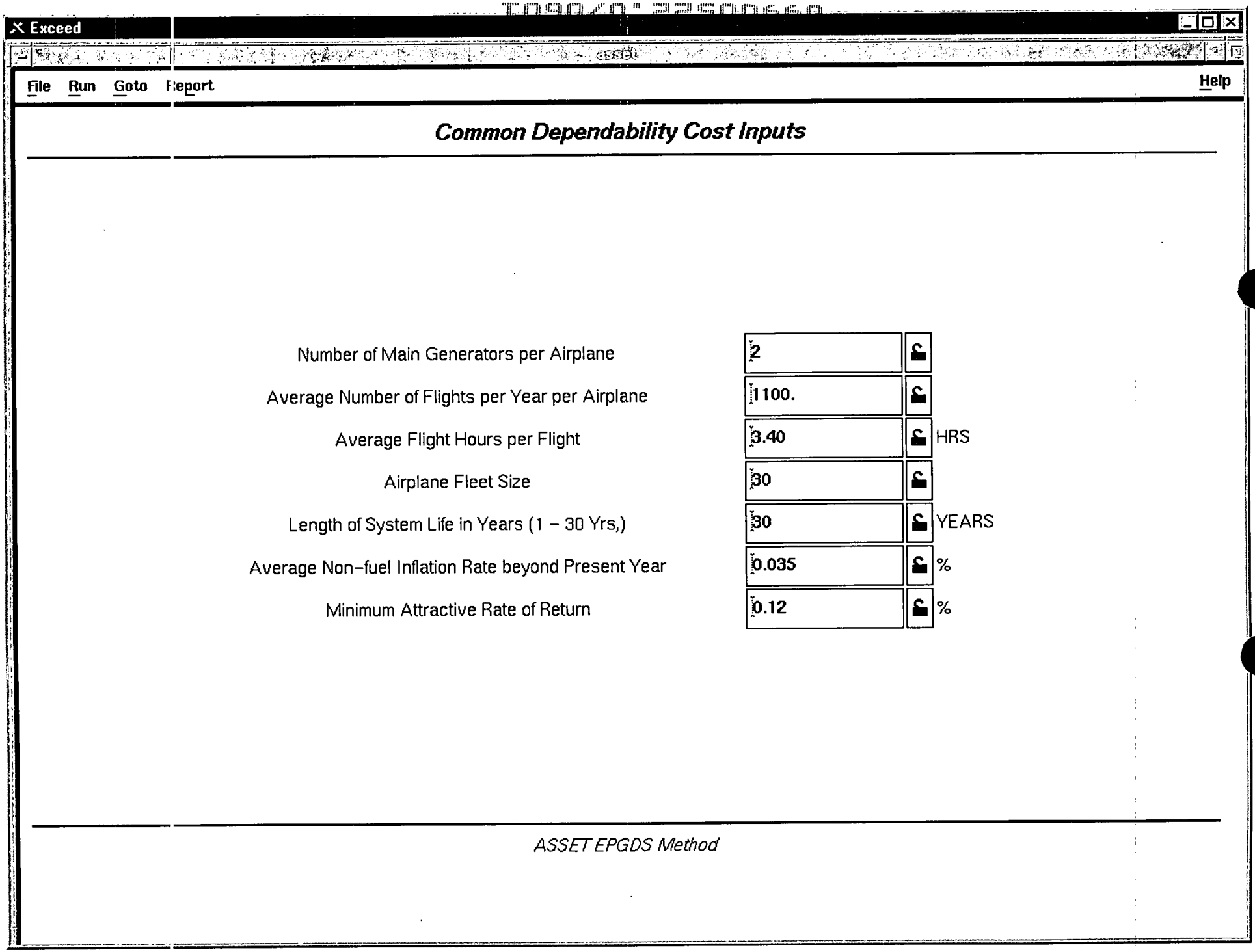

Exceed
File Run Goto Report Help
Common Dependability Cost Inputs
Number of Main Generators per Airplane
2
Average Number of Flights per Year per Airplane
1100.
Average Flight Hours per Flight
3.40
HRS
Airplane Fleet Size
30
Length of System Life in Years (1 – 30 Yrs,)
30
YEARS
Average Non-fuel Inflation Rate beyond Present Year
0.035
%
Minimum Attractive Rate of Return
0.12
%
ASSET EPGDS Method

FIGURE 36

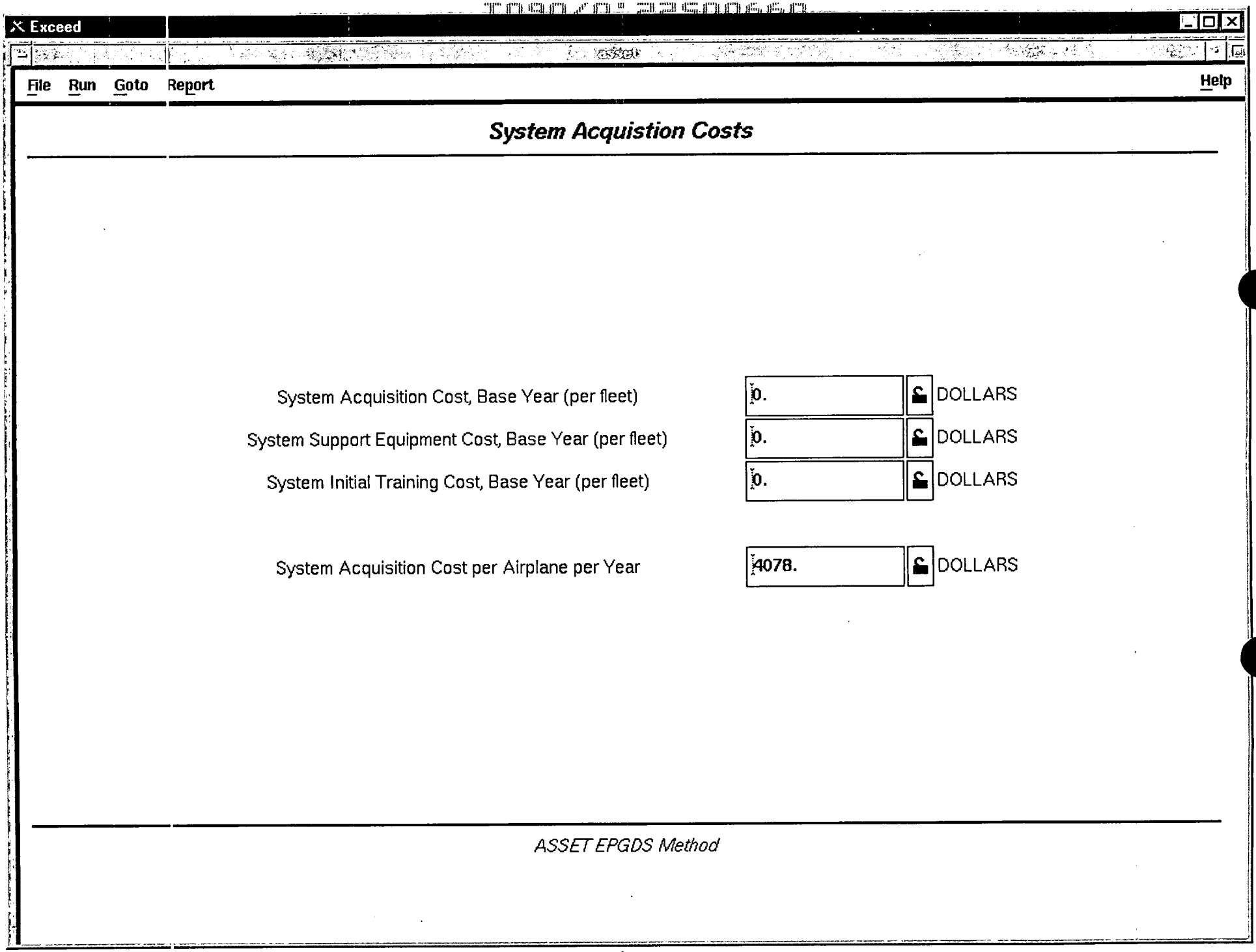

Exceed
File Run Goto Report Help
System Acquistion Costs
System Acquisition Cost, Base Year (per fleet)
0.
DOLLARS
System Support Equipment Cost, Base Year (per fleet)
0.
DOLLARS
System Initial Training Cost, Base Year (per fleet)
0.
DOLLARS
System Acquisition Cost per Airplane per Year
4078.
DOLLARS
ASSET EPGDS Method

FIGURE 37

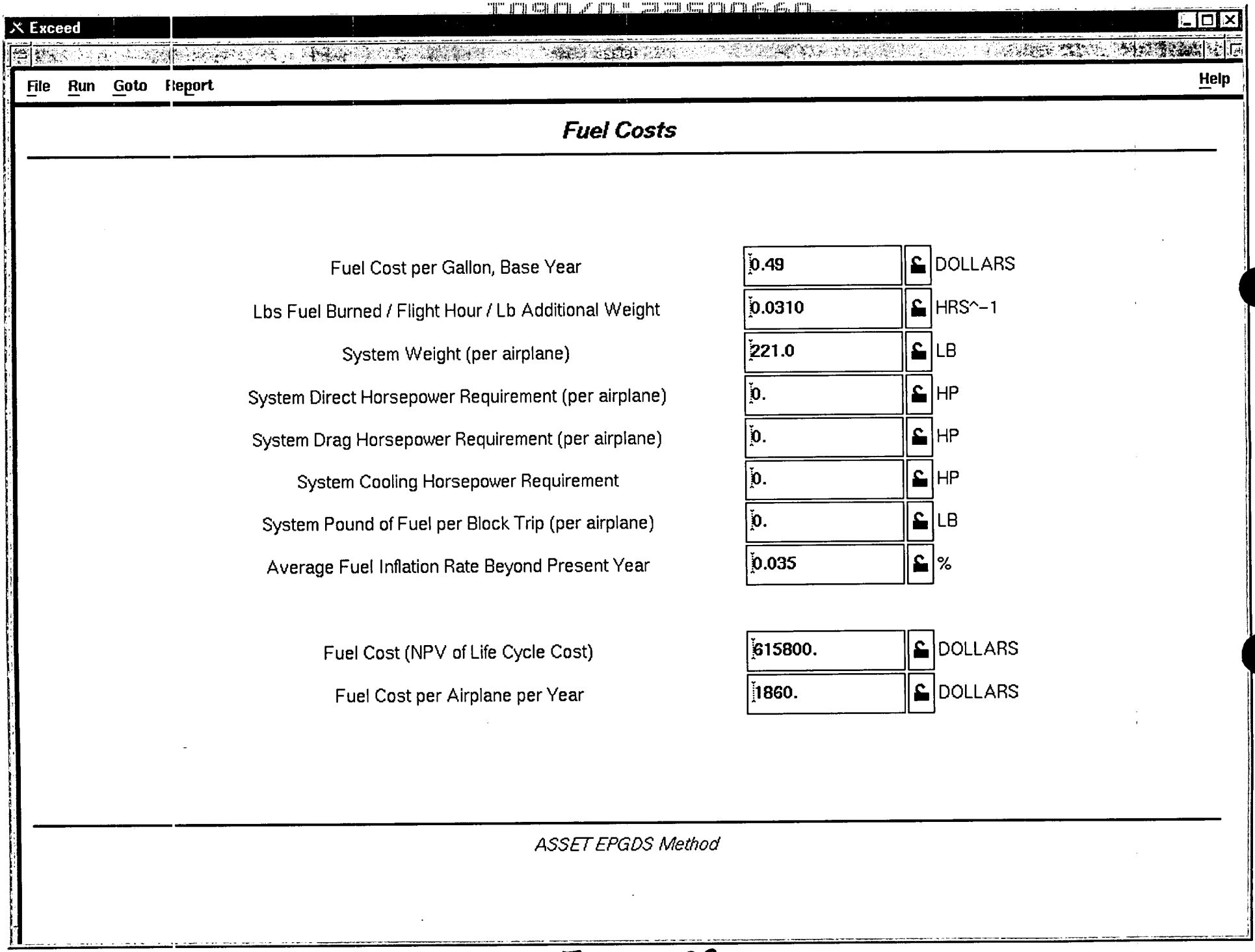

Exceed
File Run Goto Report Help
Fuel Costs
Fuel Cost per Gallon, Base Year
0.49
DOLLARS
Lbs Fuel Burned / Flight Hour / Lb Additional Weight
0.0310
HRS^-1
System Weight (per airplane)
221.0
LB
System Direct Horsepower Requirement (per airplane)
0.
HP
System Drag Horsepower Requirement (per airplane)
0.
HP
System Cooling Horsepower Requirement
0.
HP
System Pound of Fuel per Block Trip (per airplane)
0.
LB
Average Fuel Inflation Rate Beyond Present Year
0.035
%
Fuel Cost (NPV of Life Cycle Cost)
615800.
DOLLARS
Fuel Cost per Airplane per Year
1860.
DOLLARS
ASSET EPGDS Method

FIGURE 38

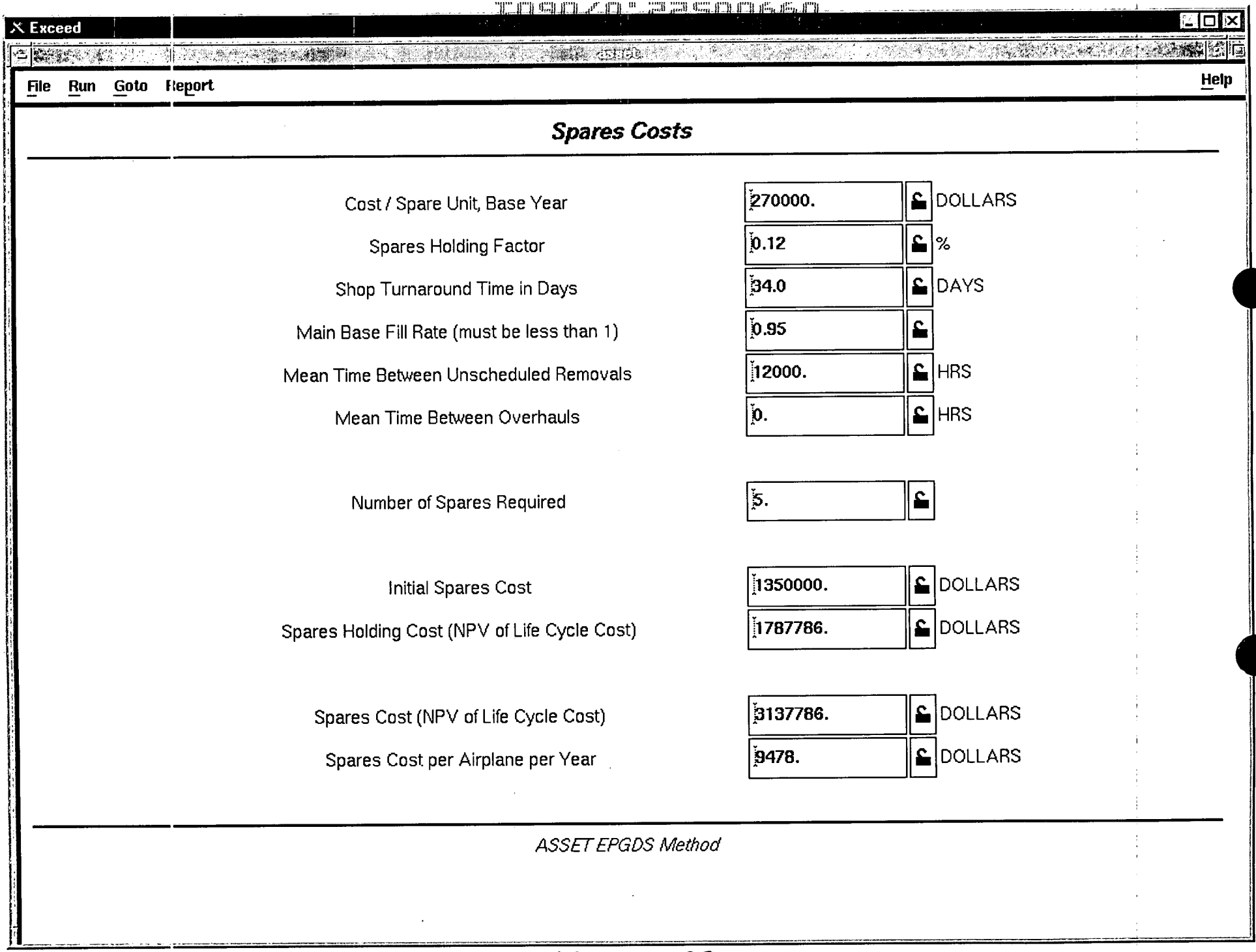

X Exceed
File Run Goto Report Help
Spares Costs
Cost / Spare Unit, Base Year 270000. DOLLARS
Spares Holding Factor 0.12 %
Shop Turnaround Time in Days 34.0 DAYS
Main Base Fill Rate (must be less than 1) 0.95
Mean Time Between Unscheduled Removals 12000. HRS
Mean Time Between Overhauls 0. HRS
Number of Spares Required 5.
Initial Spares Cost 1350000. DOLLARS
Spares Holding Cost (NPV of Life Cycle Cost) 1787786. DOLLARS
Spares Cost (NPV of Life Cycle Cost) 3137786. DOLLARS
Spares Cost per Airplane per Year 9478. DOLLARS
ASSET EPGDS Method

FIGURE 39

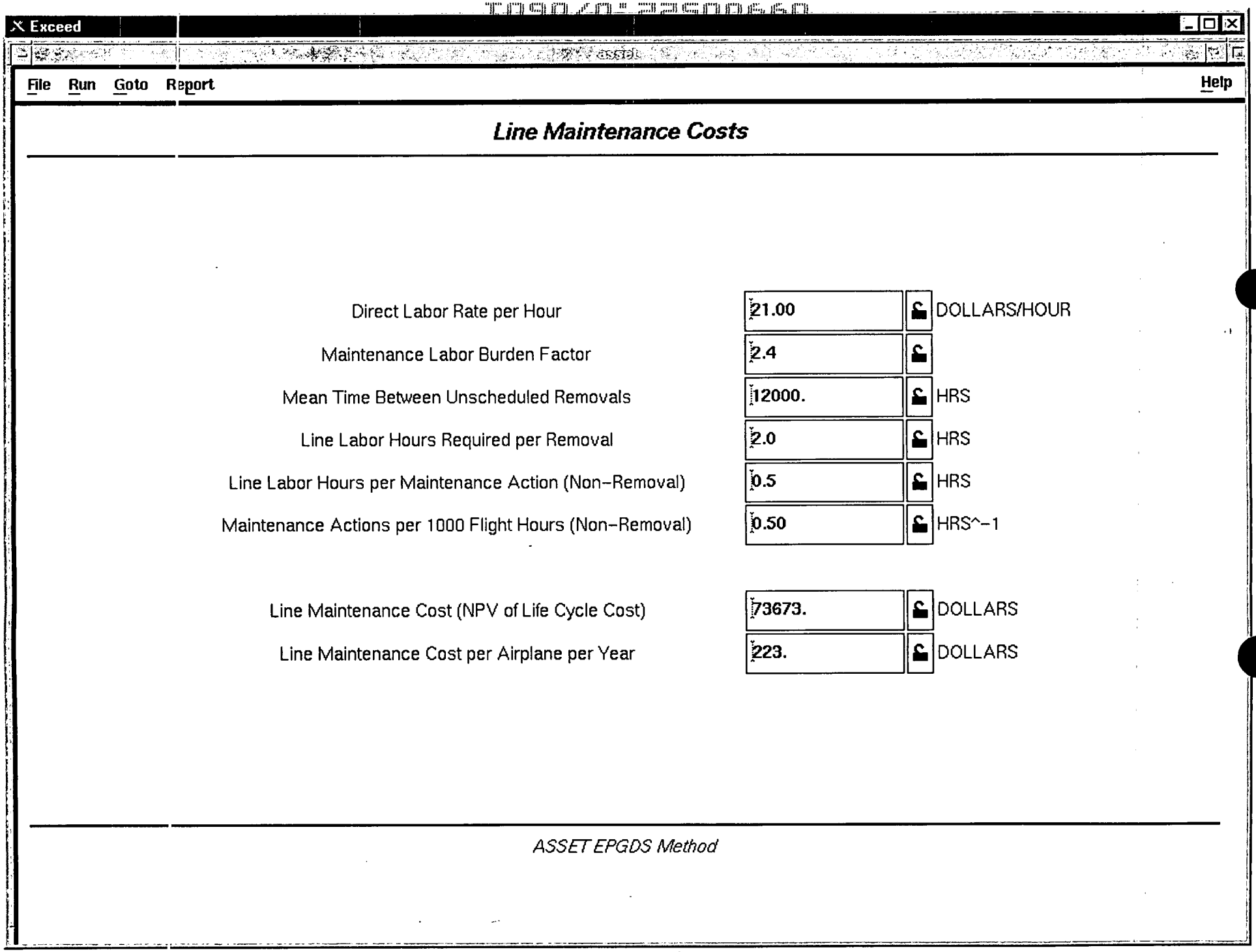

X Exceed
File Run Goto Report Help
Line Maintenance Costs
Direct Labor Rate per Hour
21.00
DOLLARS/HOUR
Maintenance Labor Burden Factor
2.4
Mean Time Between Unscheduled Removals
12000.
HRS
Line Labor Hours Required per Removal
2.0
HRS
Line Labor Hours per Maintenance Action (Non-Removal)
0.5
HRS
Maintenance Actions per 1000 Flight Hours (Non-Removal)
0.50
HRS^-1
Line Maintenance Cost (NPV of Life Cycle Cost)
73673.
DOLLARS
Line Maintenance Cost per Airplane per Year
223.
DOLLARS
ASSET EPGDS Method

FIGURE 40

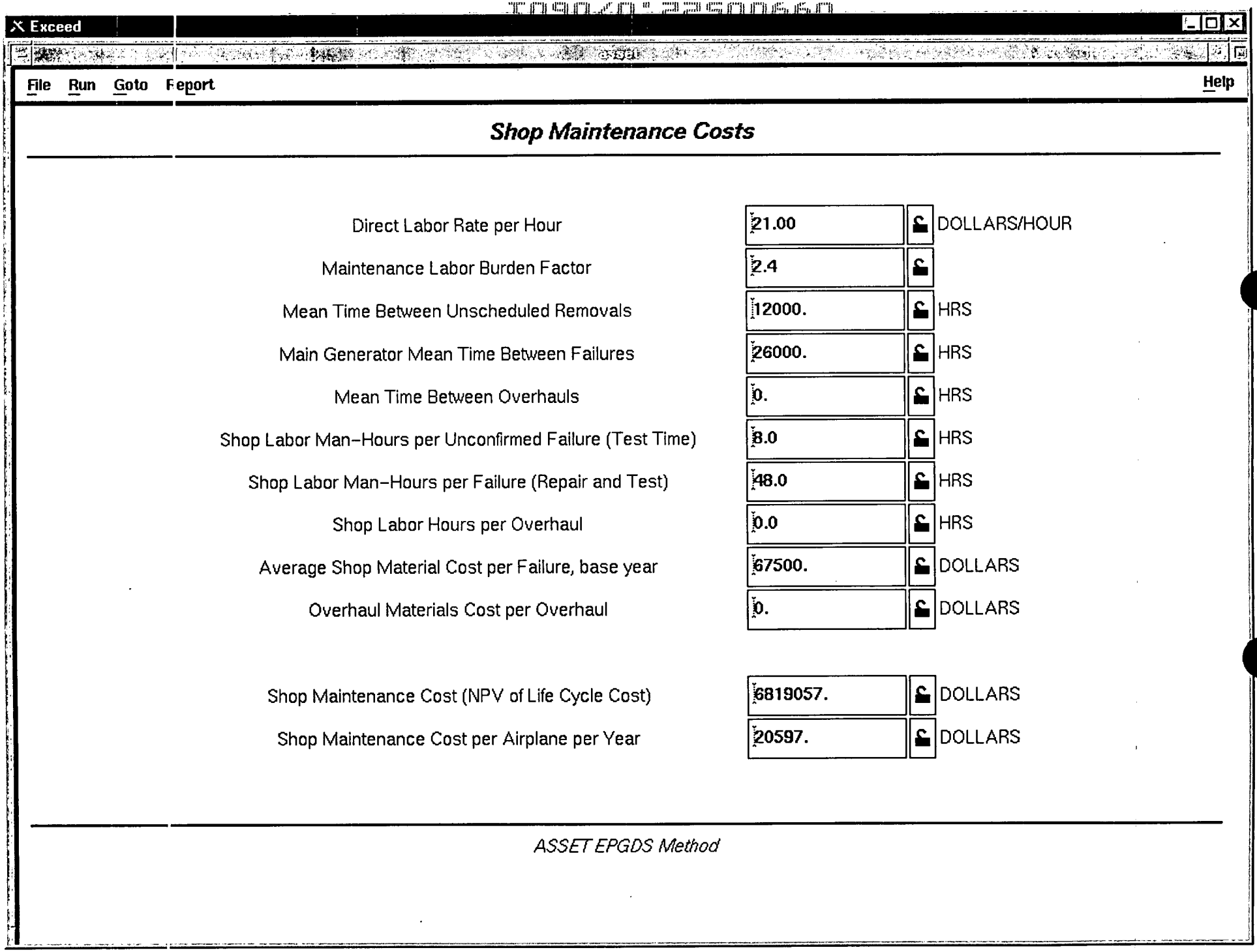

Exceed
File Run Goto Report Help
Shop Maintenance Costs
Direct Labor Rate per Hour 21.00 DOLLARS/HOUR
Maintenance Labor Burden Factor 2.4
Mean Time Between Unscheduled Removals 12000. HRS
Main Generator Mean Time Between Failures 26000. HRS
Mean Time Between Overhauls 0. HRS
Shop Labor Man-Hours per Unconfirmed Failure (Test Time) 8.0 HRS
Shop Labor Man-Hours per Failure (Repair and Test) 48.0 HRS
Shop Labor Hours per Overhaul 0.0 HRS
Average Shop Material Cost per Failure, base year 67500. DOLLARS
Overhaul Materials Cost per Overhaul 0. DOLLARS
Shop Maintenance Cost (NPV of Life Cycle Cost) 6819057. DOLLARS
Shop Maintenance Cost per Airplane per Year 20597. DOLLARS
ASSET EPGDS Method

FIGURE 41

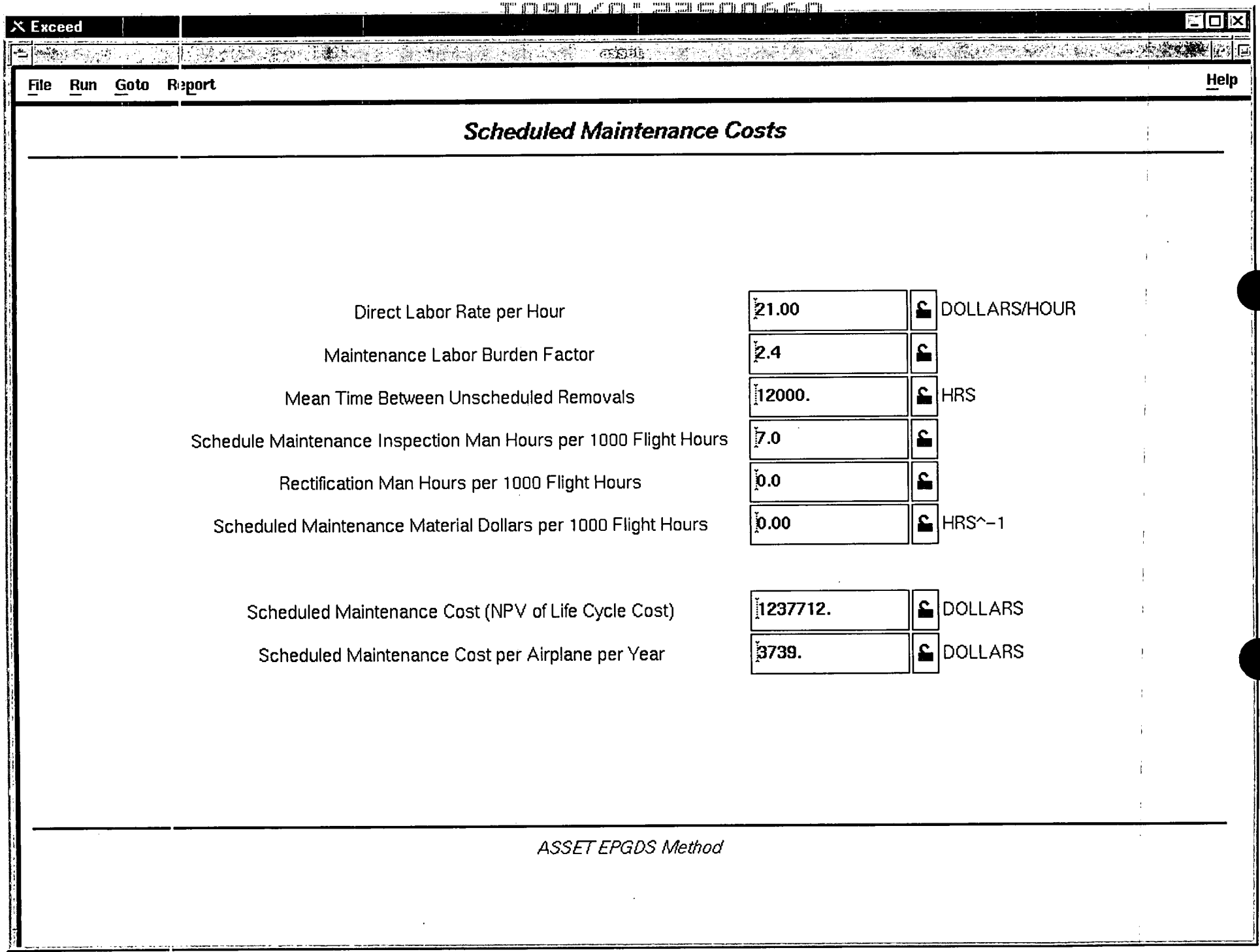

Exceed
File Run Goto Report Help
Scheduled Maintenance Costs
Direct Labor Rate per Hour
21.00
DOLLARS/HOUR
Maintenance Labor Burden Factor
2.4
Mean Time Between Unscheduled Removals
12000.
HRS
Schedule Maintenance Inspection Man Hours per 1000 Flight Hours
7.0
Rectification Man Hours per 1000 Flight Hours
0.0
Scheduled Maintenance Material Dollars per 1000 Flight Hours
0.00
HRS^-1
Scheduled Maintenance Cost (NPV of Life Cycle Cost)
1237712.
DOLLARS
Scheduled Maintenance Cost per Airplane per Year
3739.
DOLLARS
ASSET EPGDS Method

FIGURE 42

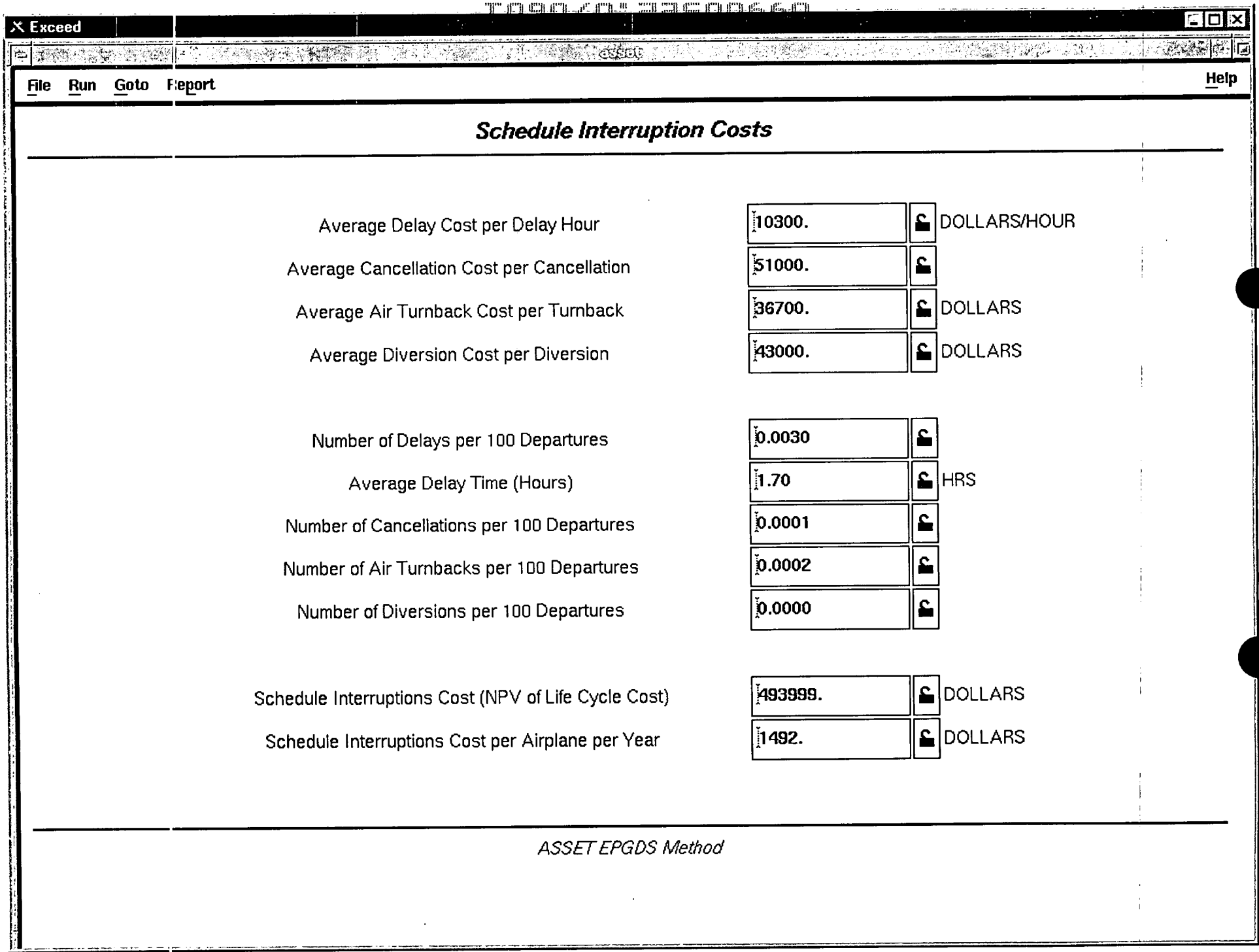

Exceed
File Run Goto Report Help
Schedule Interruption Costs
Average Delay Cost per Delay Hour
10300.
DOLLARS/HOUR
Average Cancellation Cost per Cancellation
51000.
Average Air Turnback Cost per Turnback
36700.
DOLLARS
Average Diversion Cost per Diversion
43000.
DOLLARS
Number of Delays per 100 Departures
0.0030
Average Delay Time (Hours)
1.70
HRS
Number of Cancellations per 100 Departures
0.0001
Number of Air Turnbacks per 100 Departures
0.0002
Number of Diversions per 100 Departures
0.0000
Schedule Interruptions Cost (NPV of Life Cycle Cost)
493999.
DOLLARS
Schedule Interruptions Cost per Airplane per Year
1492.
DOLLARS
ASSET EPGDS Method

FIGURE 43

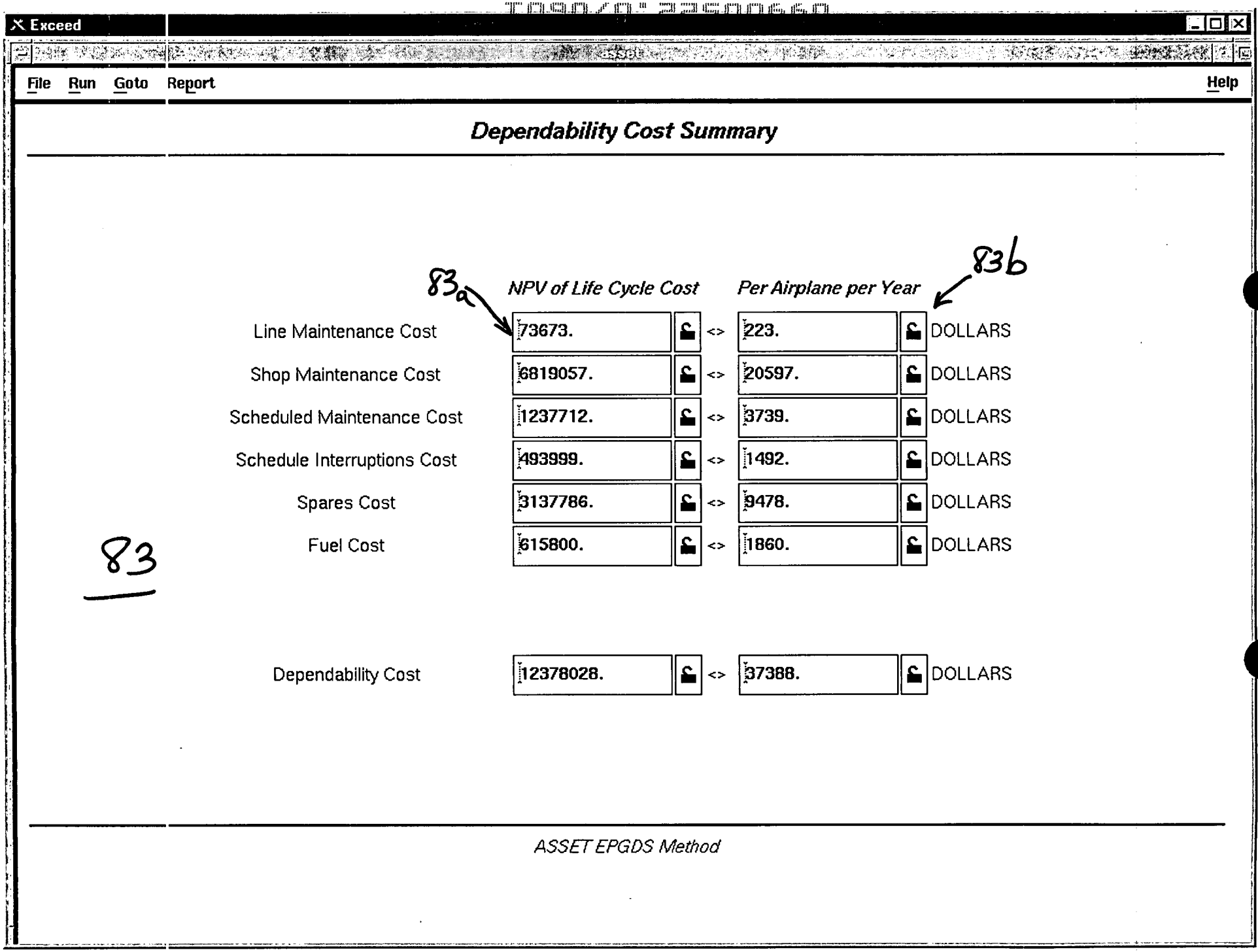

Exceed
File Run Goto Report Help
Dependability Cost Summary
83a
NPV of Life Cycle Cost
Per Airplane per Year
83b
Line Maintenance Cost 73673. <> 223. DOLLARS
Shop Maintenance Cost 6819057. <> 20597. DOLLARS
Scheduled Maintenance Cost 1237712. <> 3739. DOLLARS
Schedule Interruptions Cost 493999. <> 1492. DOLLARS
Spares Cost 3137786. <> 9478. DOLLARS
Fuel Cost 615800. <> 1860. DOLLARS
83
Dependability Cost 12378028. <> 37388. DOLLARS
ASSET EPGDS Method

FIGURE 44

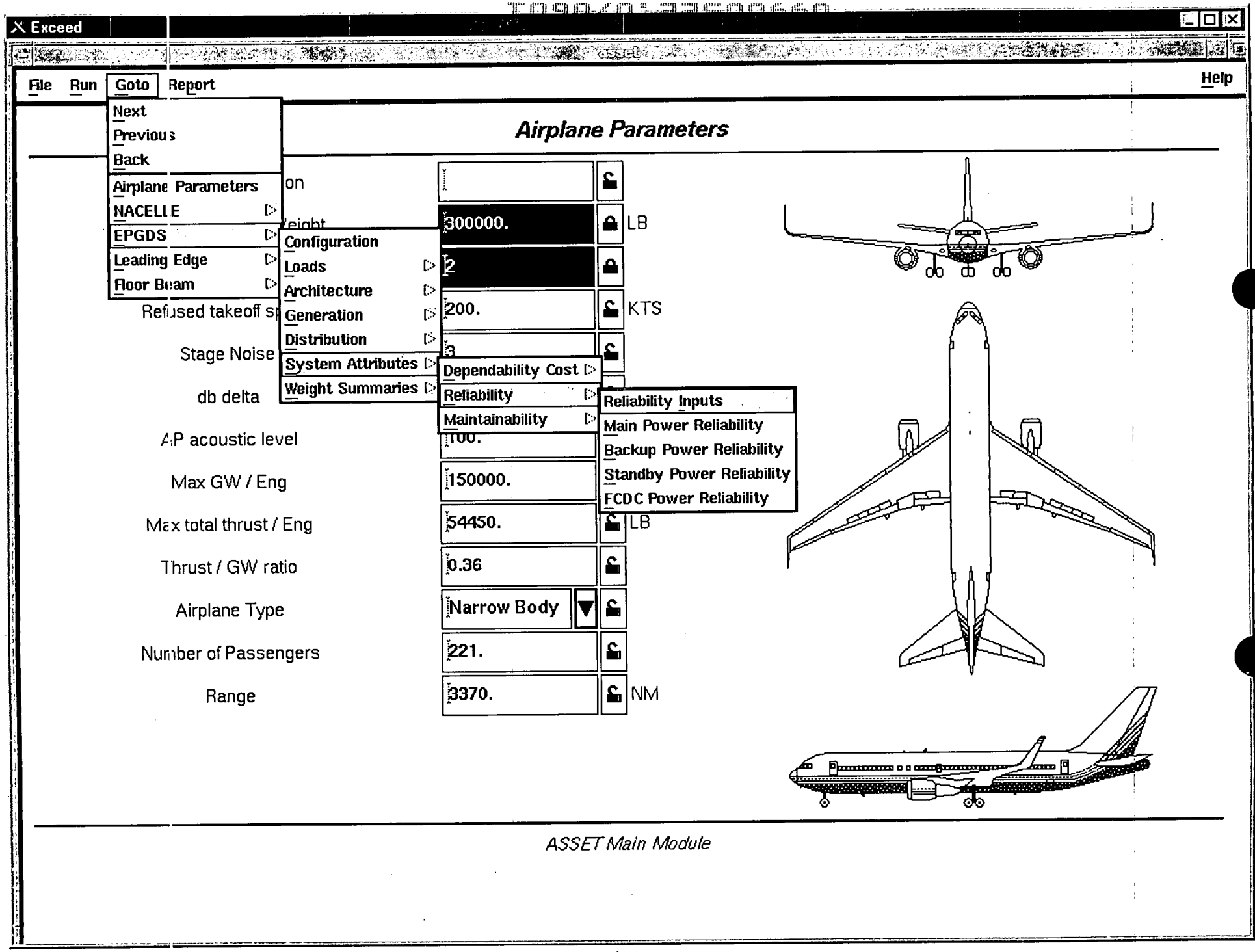

Exceed
File
Run
Goto
Report
Help
Next
Previous
Back
Airplane Parameters
NACELLE
EPGDS
Leading Edge
Floor Beam
Configuration
Loads
Architecture
Generation
Distribution
System Attributes
Weight Summaries
Dependability Cost
Reliability
Maintainability
Reliability Inputs
Main Power Reliability
Backup Power Reliability
Standby Power Reliability
FCDC Power Reliability
Airplane Parameters
on
eight
Refused takeoff sp
Stage Noise
db delta
AP acoustic level
Max GW / Eng
Max total thrust / Eng
Thrust / GW ratio
Airplane Type
Number of Passengers
Range
800000.
LB
2
200.
KTS
3
100.
150000.
54450.
LB
0.36
Narrow Body
221.
3370.
NM
ASSET Main Module

FIGURE 45

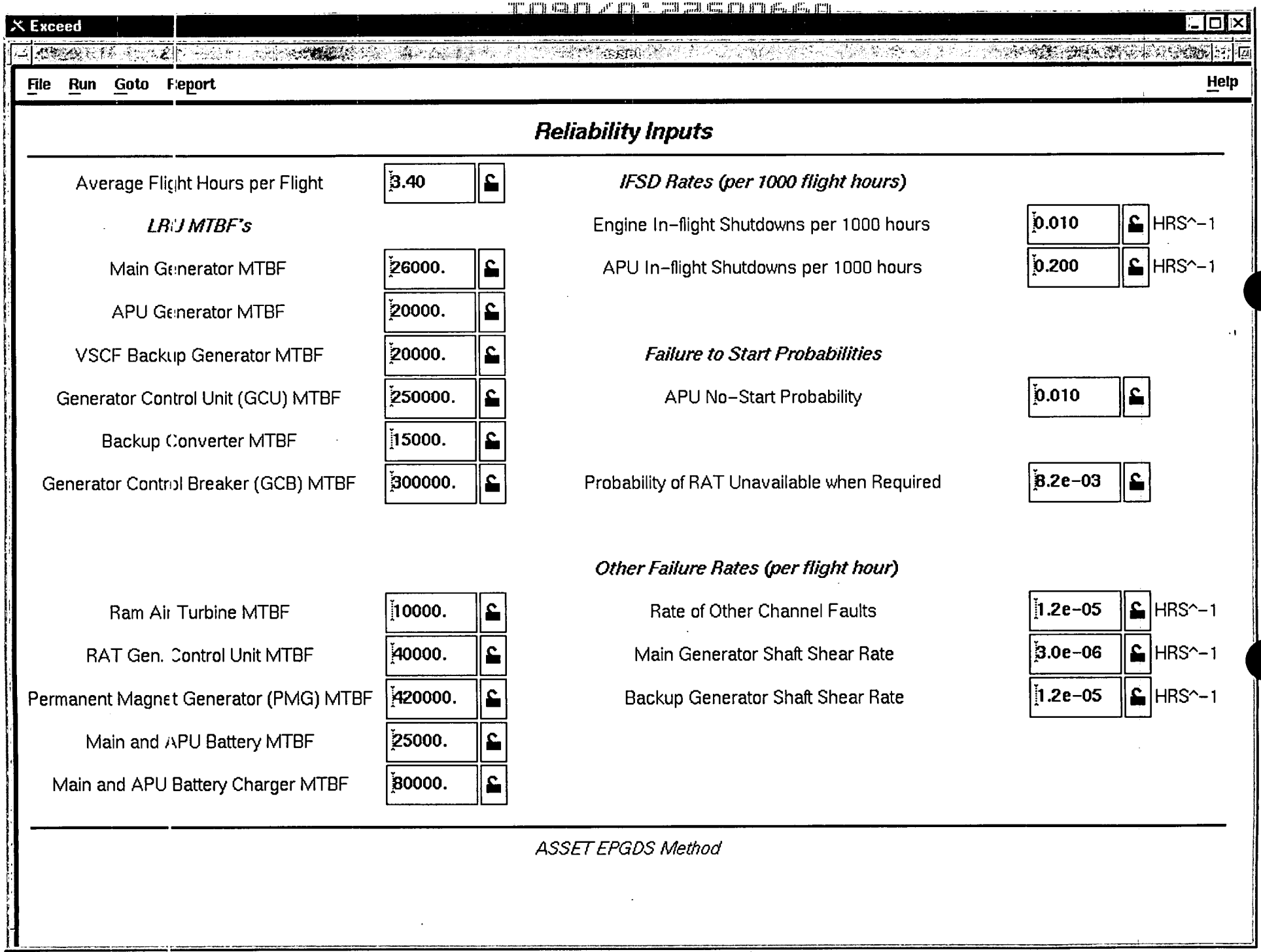
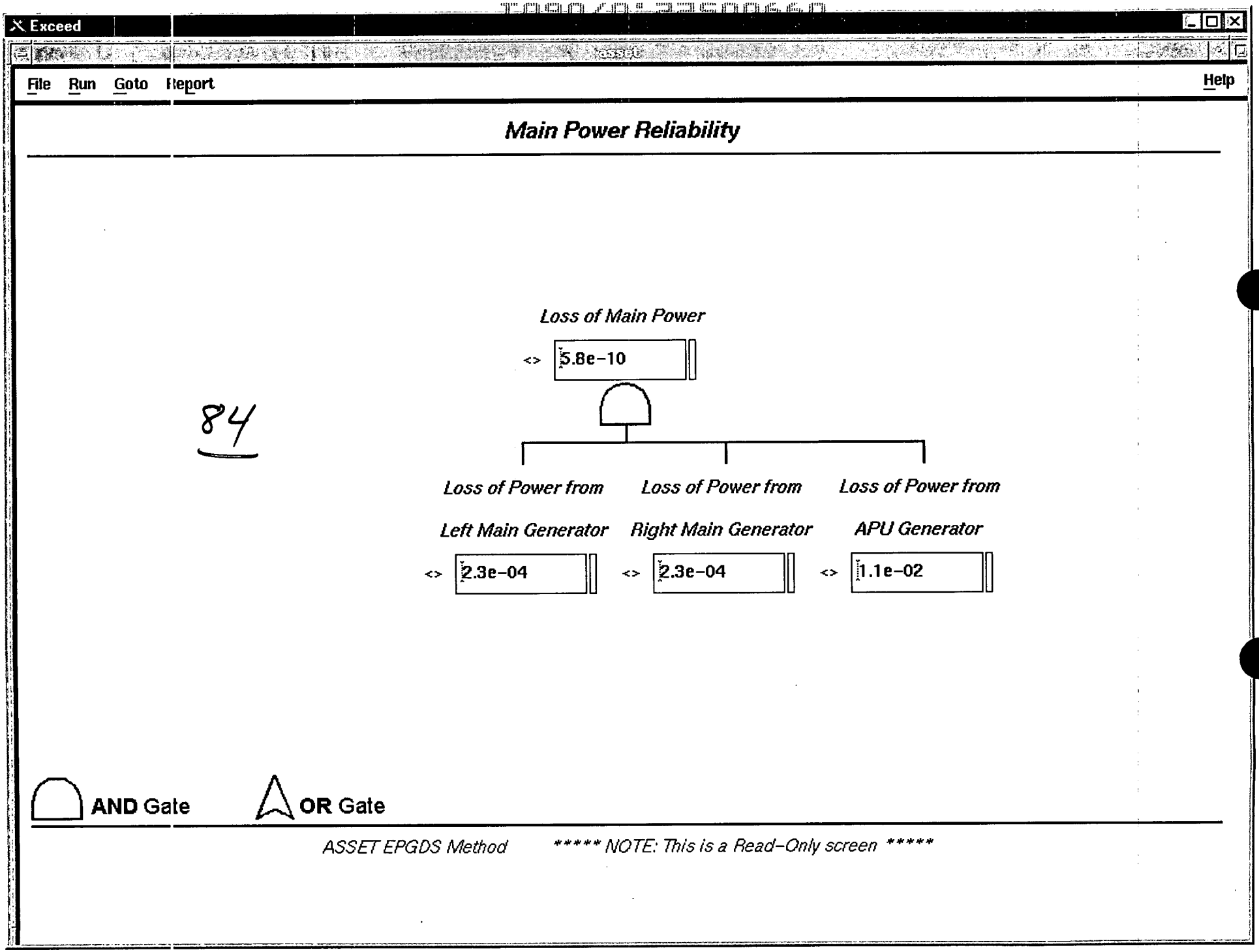

Exceed
File Run Goto Report Help
Reliability Inputs
Average Flight Hours per Flight 3.40
LRU MTBF's
Main Generator MTBF 26000.
APU Generator MTBF 20000.
VSCF Backup Generator MTBF 20000.
Generator Control Unit (GCU) MTBF 250000.
Backup Converter MTBF 15000.
Generator Control Breaker (GCB) MTBF 300000.
Ram Air Turbine MTBF 10000.
RAT Gen. Control Unit MTBF 40000.
Permanent Magnet Generator (PMG) MTBF 420000.
Main and APU Battery MTBF 25000.
Main and APU Battery Charger MTBF 80000.
IFSD Rates (per 1000 flight hours)
Engine In-flight Shutdowns per 1000 hours 0.010 HRS^-1
APU In-flight Shutdowns per 1000 hours 0.200 HRS^-1
Failure to Start Probabilities
APU No-Start Probability 0.010
Probability of RAT Unavailable when Required 8.2e-03
Other Failure Rates (per flight hour)
Rate of Other Channel Faults 1.2e-05 HRS^-1
Main Generator Shaft Shear Rate 3.0e-06 HRS^-1
Backup Generator Shaft Shear Rate 1.2e-05 HRS^-1
ASSET EPGDS Method

FIGURE 46


Exceed
File Run Goto Report Help
Main Power Reliability
Loss of Main Power
<> 5.8e-10
Loss of Power from Left Main Generator
<> 2.3e-04
Loss of Power from Right Main Generator
<> 2.3e-04
Loss of Power from APU Generator
<> 1.1e-02
AND Gate
OR Gate
ASSET EPGDS Method
***** NOTE: This is a Read-Only screen *****

84

FIGURE 47

Exceed

File Run Goto Report Help

Backup Power Reliability

8'S

Loss of Backup Power

<> 1.3e-11

Loss of Main Power

<> 5.8e-10

Loss of Power from Backup Generators

<> 2.3e-04

AND Gate **OR** Gate

ASSET EPGDS Method ***** NOTE: This is a Read-Only screen *****

FIGURE 48

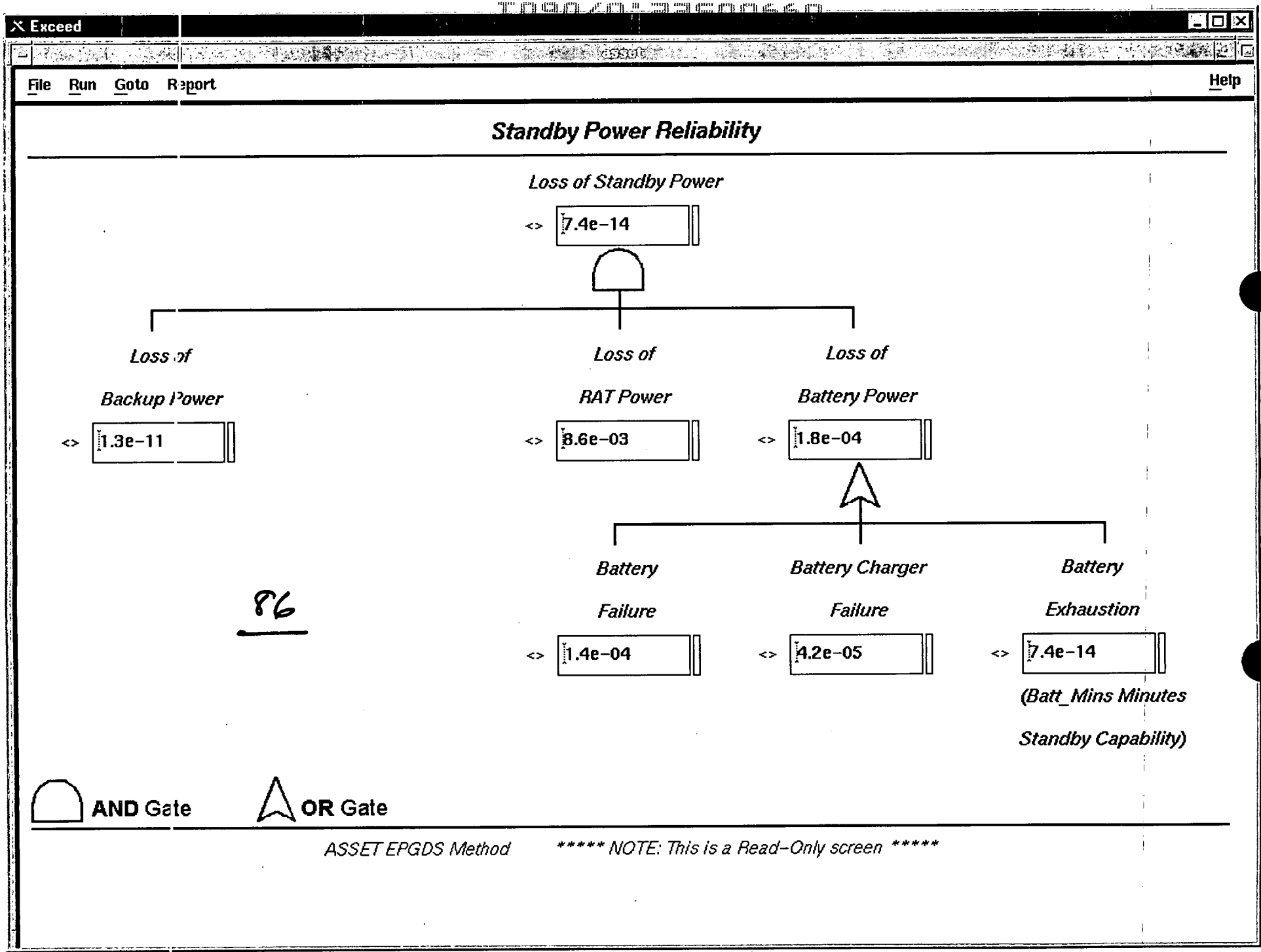

Exceed
File Run Goto Report Help
Standby Power Reliability
Loss of Standby Power
<> 7.4e-14
Loss of Backup Power
<> 1.3e-11
Loss of RAT Power
<> 8.6e-03
Loss of Battery Power
<> 1.8e-04
Battery Failure
<> 1.4e-04
Battery Charger Failure
<> 4.2e-05
Battery Exhaustion
<> 7.4e-14
(Batt_Mins Minutes Standby Capability)
86
AND Gate
OR Gate
ASSET EPGDS Method
***** NOTE: This is a Read-Only screen *****

FIGURE 49

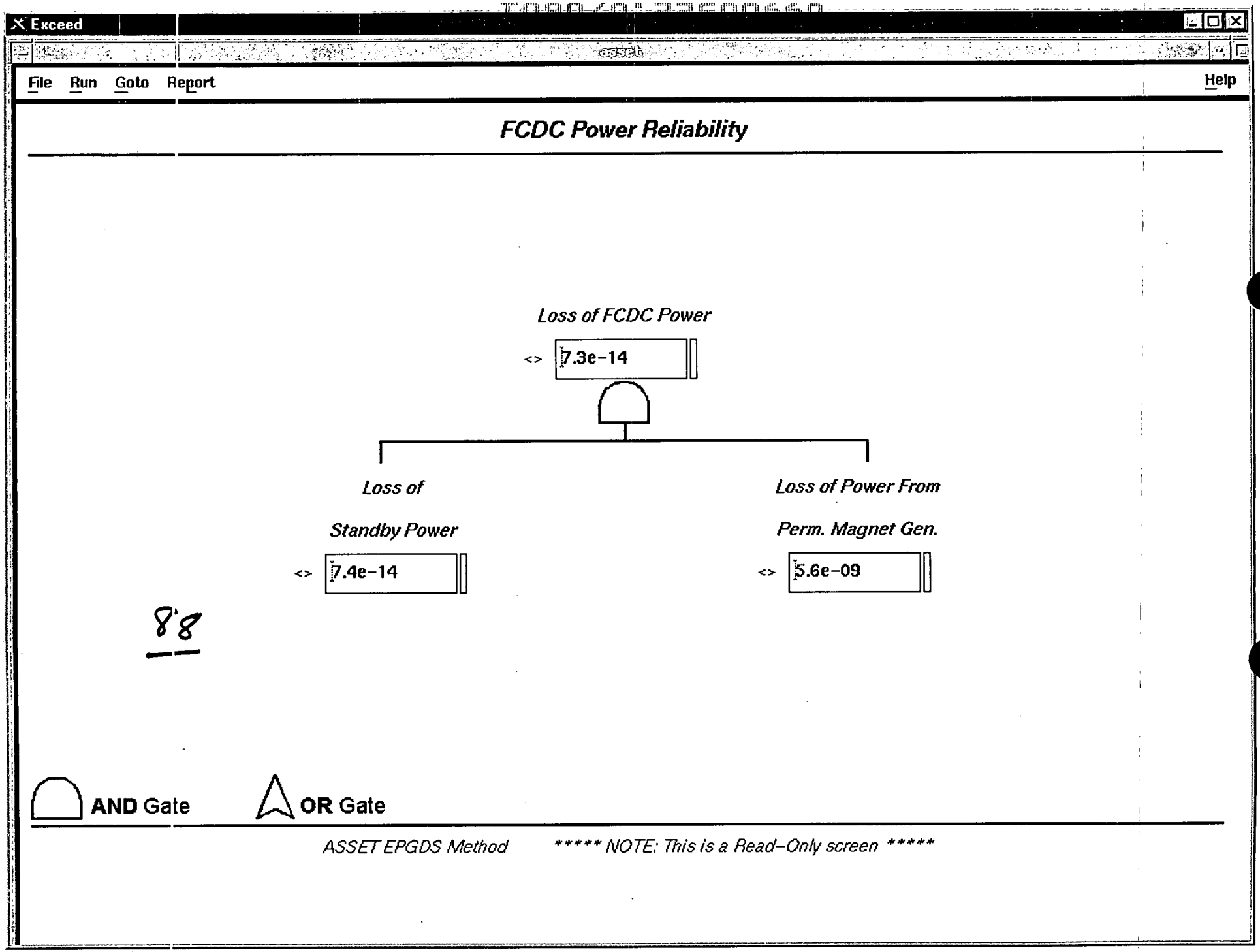

Exceed
File Run Goto Report
Help
FCDC Power Reliability
Loss of FCDC Power
<> 7.3e-14
Loss of
Standby Power
<> 7.4e-14
Loss of Power From
Perm. Magnet Gen.
<> 5.6e-09
8'8
AND Gate
OR Gate
ASSET EPGDS Method
***** NOTE: This is a Read-Only screen *****

FIGURE 50

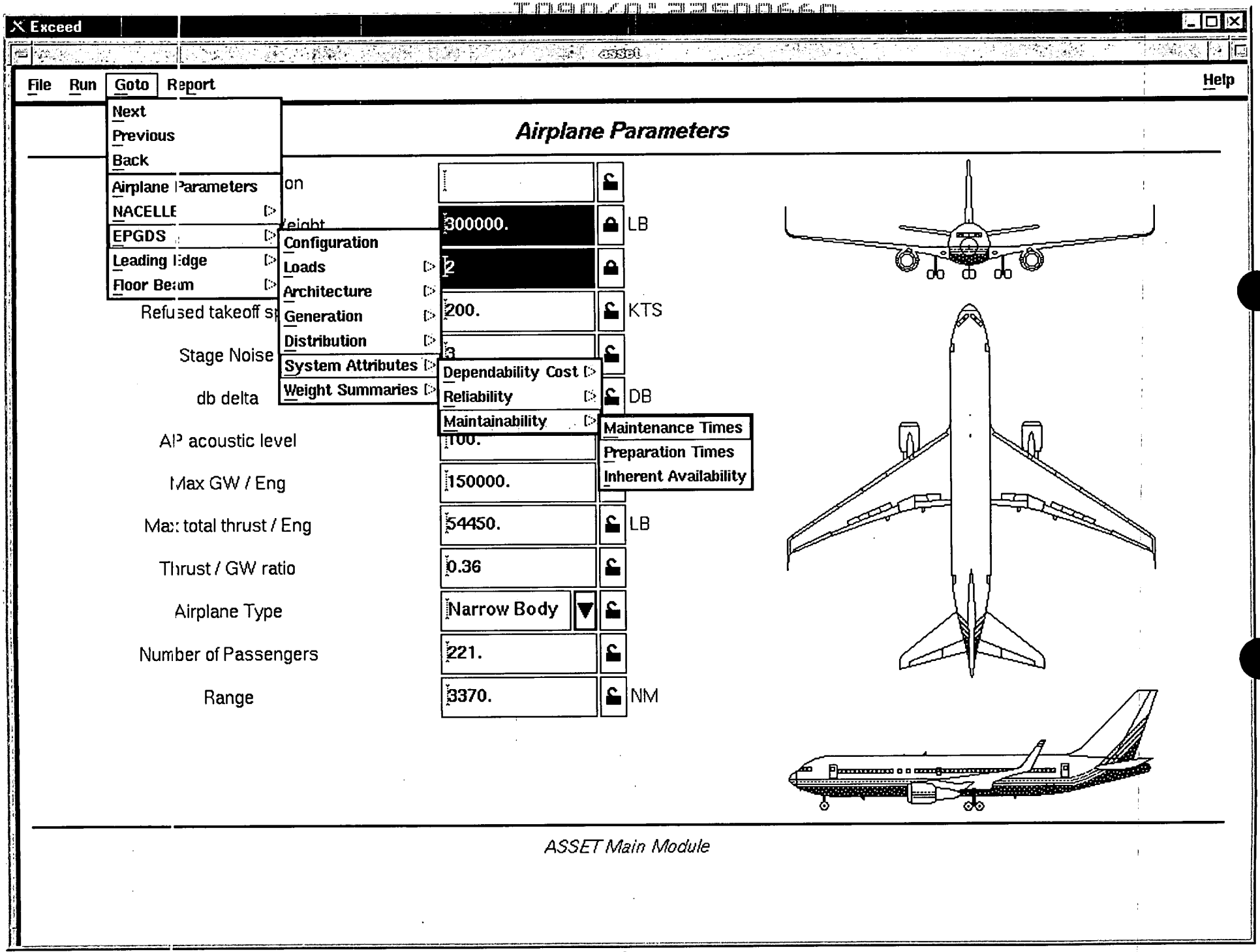

Exceed
File
Run
Goto
Report
Help
Next
Previous
Back
Airplane Parameters
NACELLE
EPGDS
Leading Edge
Floor Beam
Configuration
Loads
Architecture
Generation
Distribution
System Attributes
Weight Summaries
Dependability Cost
Reliability
Maintainability
Maintenance Times
Preparation Times
Inherent Availability
Airplane Parameters
Refused takeoff
Stage Noise
db delta
APP acoustic level
Max GW / Eng
Max total thrust / Eng
Thrust / GW ratio
Airplane Type
Number of Passengers
Range
300000.
LB
200.
KTS
100.
150000.
54450.
LB
0.36
Narrow Body
221.
3370.
NM
ASSET Main Module

FIGURE 51

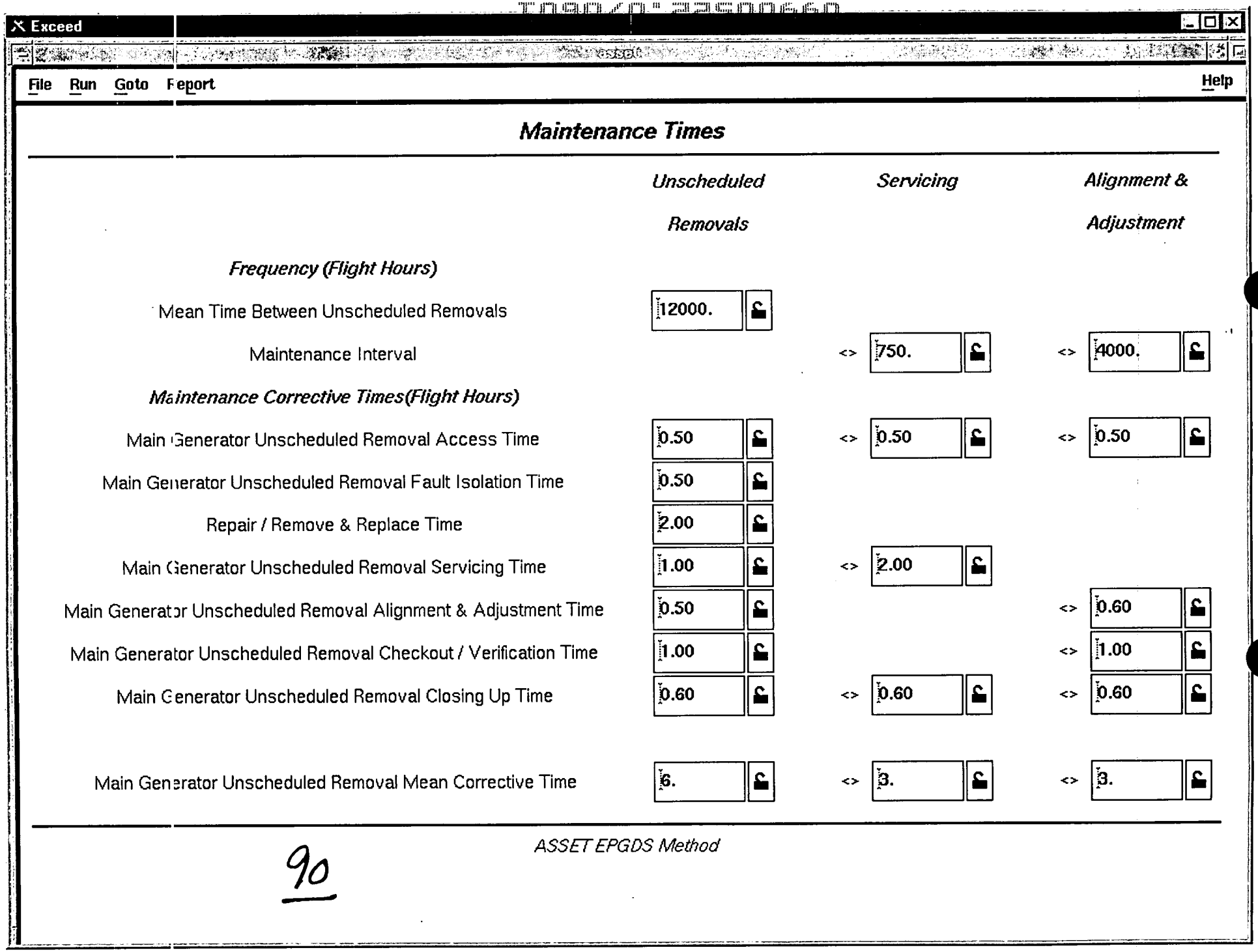

Exceed
File Run Goto Report Help
Maintenance Times
Unscheduled Removals
Servicing
Alignment & Adjustment
Frequency (Flight Hours)
Mean Time Between Unscheduled Removals
12000.
Maintenance Interval
<> 750.
<> 4000.
Maintenance Corrective Times(Flight Hours)
Main Generator Unscheduled Removal Access Time
0.50
<> 0.50
<> 0.50
Main Generator Unscheduled Removal Fault Isolation Time
0.50
Repair / Remove & Replace Time
2.00
Main Generator Unscheduled Removal Servicing Time
1.00
<> 2.00
Main Generator Unscheduled Removal Alignment & Adjustment Time
0.50
<> 0.60
Main Generator Unscheduled Removal Checkout / Verification Time
1.00
<> 1.00
Main Generator Unscheduled Removal Closing Up Time
0.60
<> 0.60
<> 0.60
Main Generator Unscheduled Removal Mean Corrective Time
6.
<> 3.
<> 3.
ASSET EPGDS Method

FIGURE 52

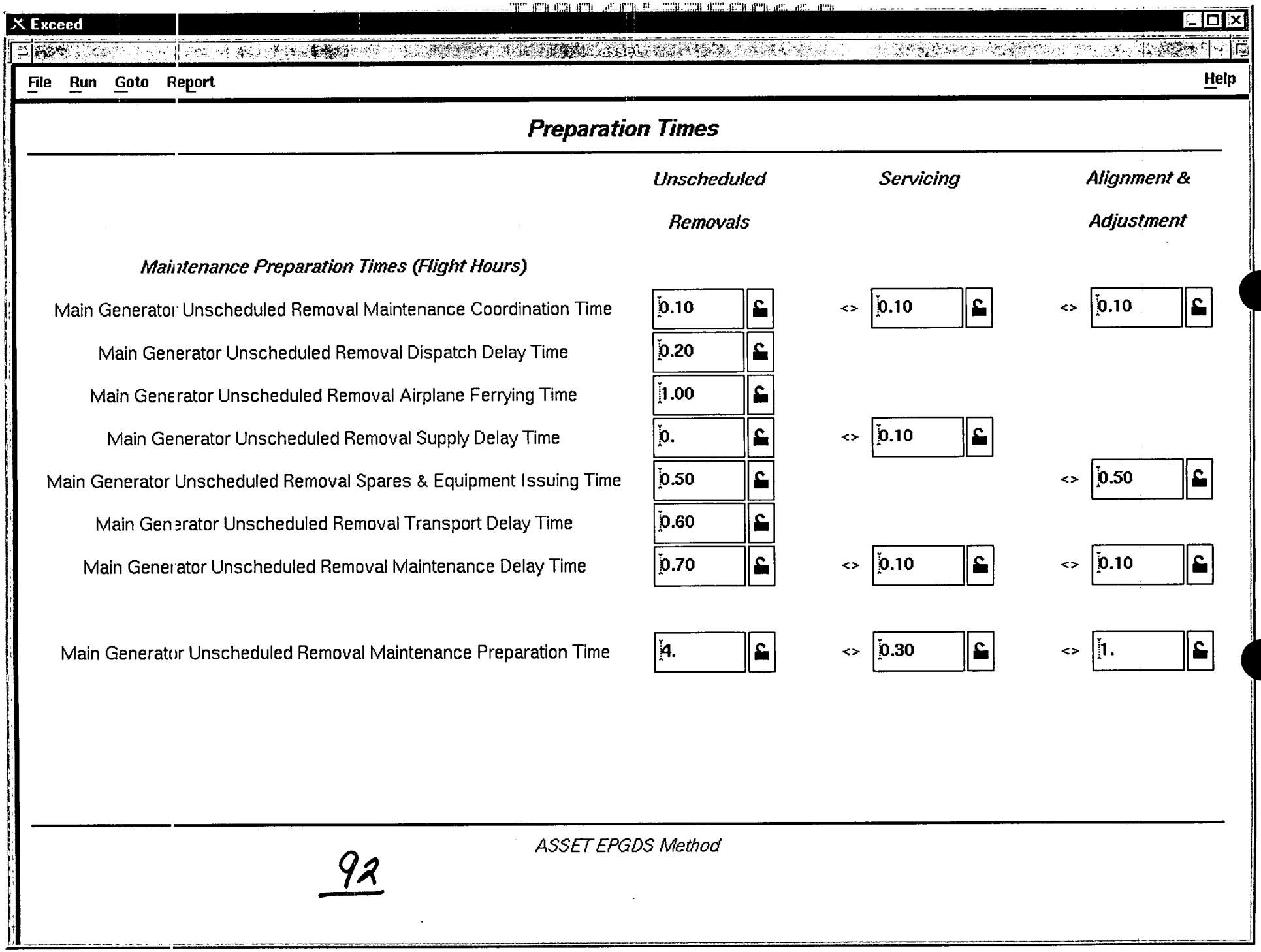
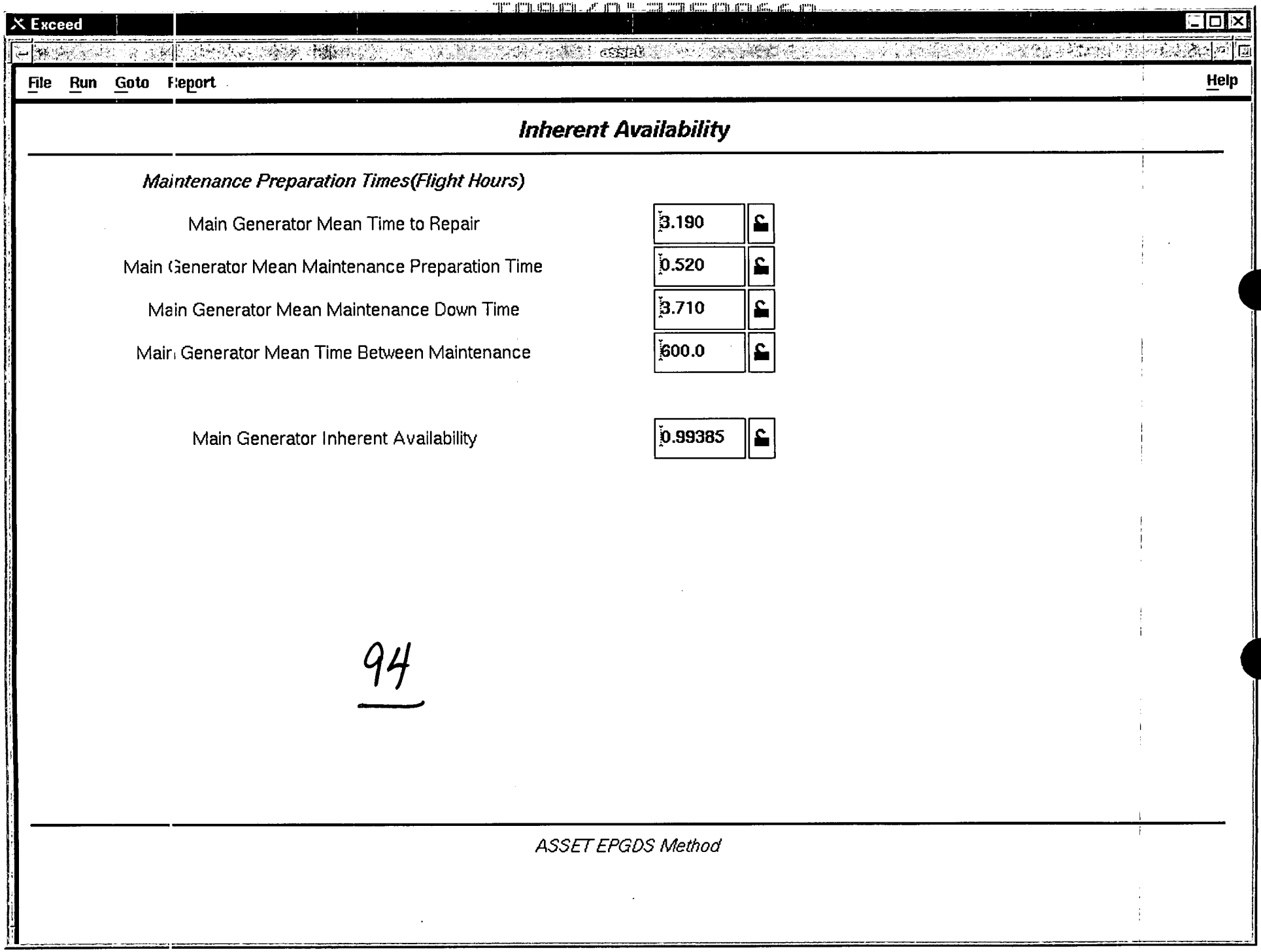
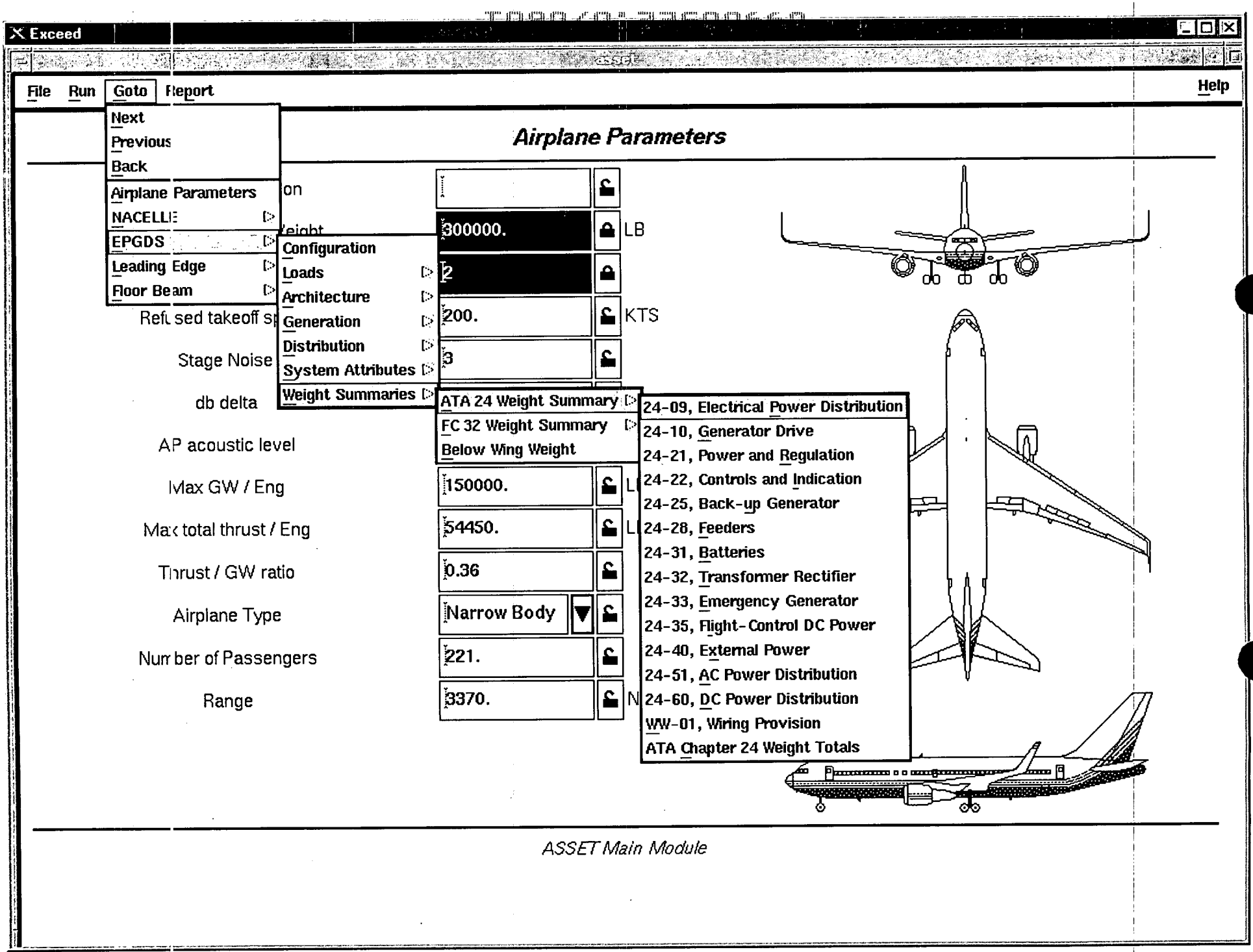

X Exceed
File Run Goto Report Help
Preparation Times
Unscheduled Removals
Servicing
Alignment & Adjustment
Maintenance Preparation Times (Flight Hours)
Main Generator Unscheduled Removal Maintenance Coordination Time 0.10 <> 0.10 <> 0.10
Main Generator Unscheduled Removal Dispatch Delay Time 0.20
Main Generator Unscheduled Removal Airplane Ferrying Time 1.00
Main Generator Unscheduled Removal Supply Delay Time 0. <> 0.10
Main Generator Unscheduled Removal Spares & Equipment Issuing Time 0.50 <> 0.50
Main Generator Unscheduled Removal Transport Delay Time 0.60
Main Generator Unscheduled Removal Maintenance Delay Time 0.70 <> 0.10 <> 0.10
Main Generator Unscheduled Removal Maintenance Preparation Time 4. <> 0.30 <> 1.
ASSET EPGDS Method

FIGURE 53


Exceed
File Run Goto Report Help
Inherent Availability
Maintenance Preparation Times(Flight Hours)
Main Generator Mean Time to Repair
3.190
Main Generator Mean Maintenance Preparation Time
0.520
Main Generator Mean Maintenance Down Time
3.710
Main Generator Mean Time Between Maintenance
600.0
Main Generator Inherent Availability
0.99385
ASSET EPGDS Method

94

FIGURE 54


Exceed
File
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Airplane Parameters
NACELLE
EPGDS
Leading Edge
Floor Beam
Airplane Parameters
Configuration
Loads
Architecture
Generation
Distribution
System Attributes
Weight Summaries
ATA 24 Weight Summary
FC 32 Weight Summary
Below Wing Weight
24-09, Electrical Power Distribution
24-10, Generator Drive
24-21, Power and Regulation
24-22, Controls and Indication
24-25, Back-up Generator
24-28, Feeders
24-31, Batteries
24-32, Transformer Rectifier
24-33, Emergency Generator
24-35, Flight-Control DC Power
24-40, External Power
24-51, AC Power Distribution
24-60, DC Power Distribution
WW-01, Wiring Provision
ATA Chapter 24 Weight Totals
Airplane Parameters
300000.
LB
2
200.
KTS
3
Stage Noise
db delta
AP acoustic level
Max GW / Eng
150000.
Max total thrust / Eng
54450.
Thrust / GW ratio
0.36
Airplane Type
Narrow Body
Number of Passengers
221.
Range
3370.
ASSET Main Module

FIGURE 55

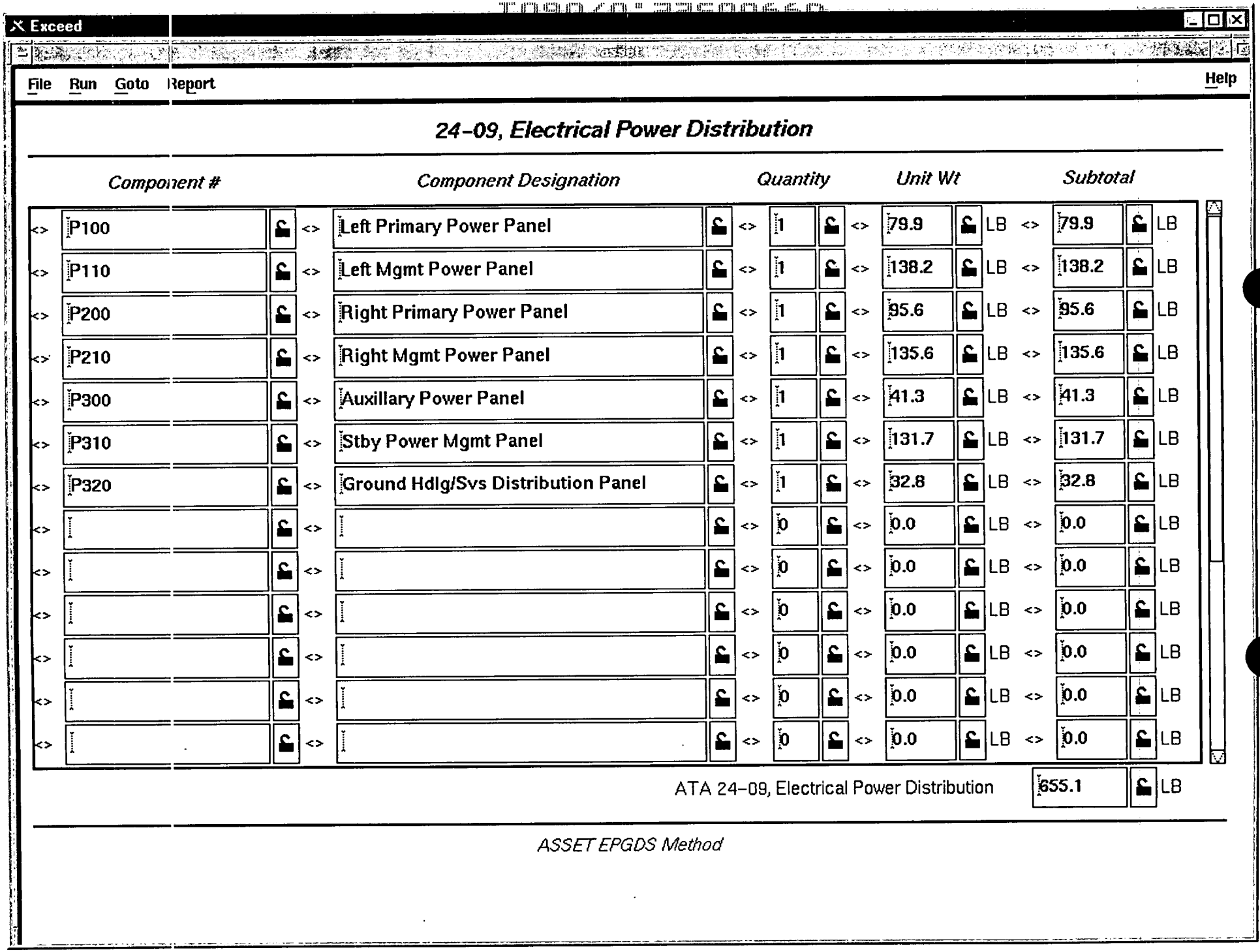

Exceed
File Run Goto Report Help
24-09, Electrical Power Distribution
Component # Component Designation Quantity Unit Wt Subtotal
P100 Left Primary Power Panel 1 79.9 LB 79.9 LB
P110 Left Mgmt Power Panel 1 138.2 LB 138.2 LB
P200 Right Primary Power Panel 1 95.6 LB 95.6 LB
P210 Right Mgmt Power Panel 1 135.6 LB 135.6 LB
P300 Auxillary Power Panel 1 41.3 LB 41.3 LB
P310 Stby Power Mgmt Panel 1 131.7 LB 131.7 LB
P320 Ground Hdlg/Svs Distribution Panel 1 32.8 LB 32.8 LB
0 0.0 LB 0.0 LB
ATA 24-09, Electrical Power Distribution 655.1 LB
ASSET EPGDS Method

FIGURE 56

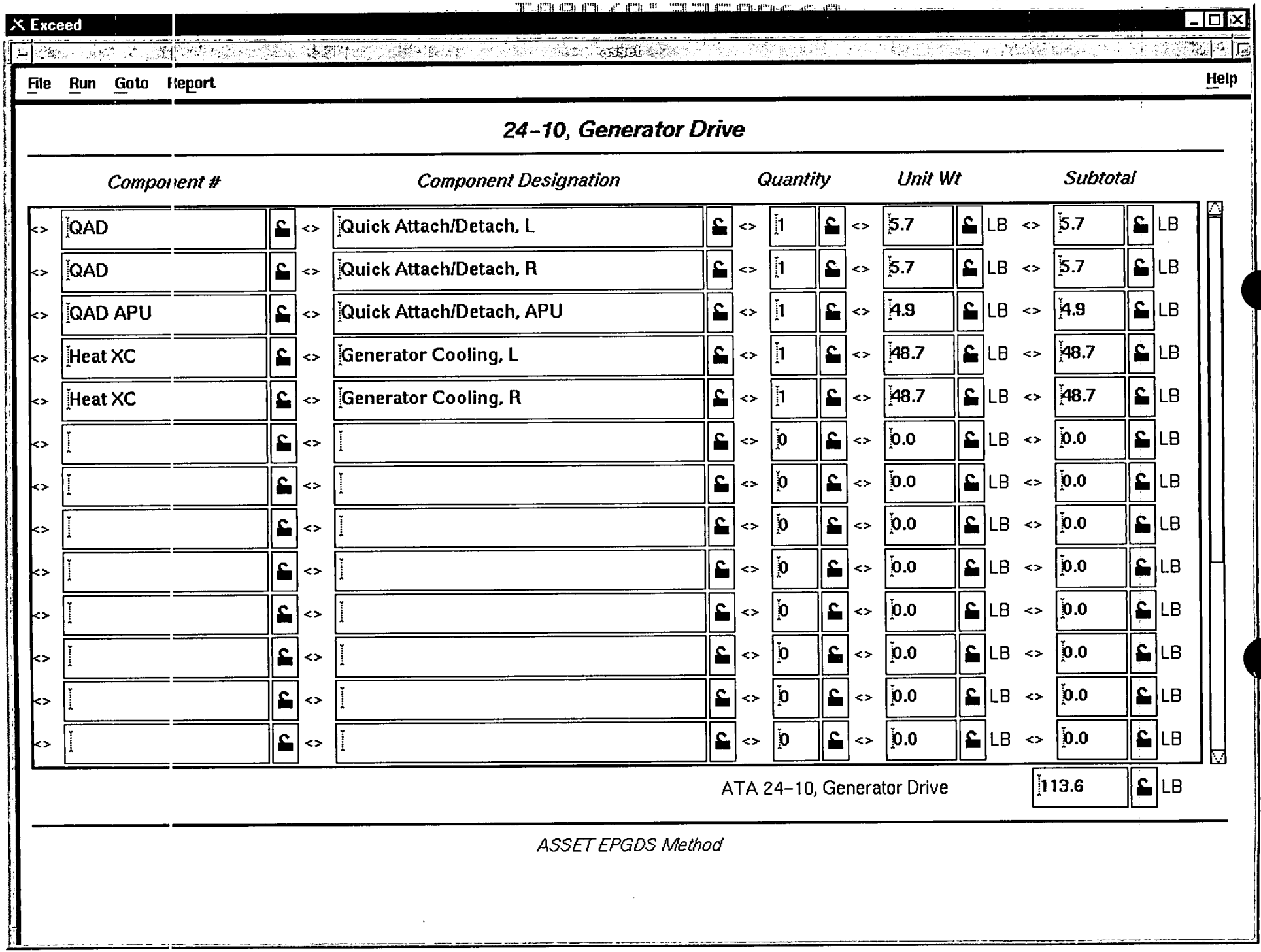

Exceed
File Run Goto Report Help
24-10, Generator Drive
Component # Component Designation Quantity Unit Wt Subtotal
QAD Quick Attach/Detach, L 1 5.7 LB 5.7 LB
QAD Quick Attach/Detach, R 1 5.7 LB 5.7 LB
QAD APU Quick Attach/Detach, APU 1 4.9 LB 4.9 LB
Heat XC Generator Cooling, L 1 48.7 LB 48.7 LB
Heat XC Generator Cooling, R 1 48.7 LB 48.7 LB
0 0.0 LB 0.0 LB
ATA 24-10, Generator Drive 113.6 LB
ASSET EPGDS Method

FIGURE 57

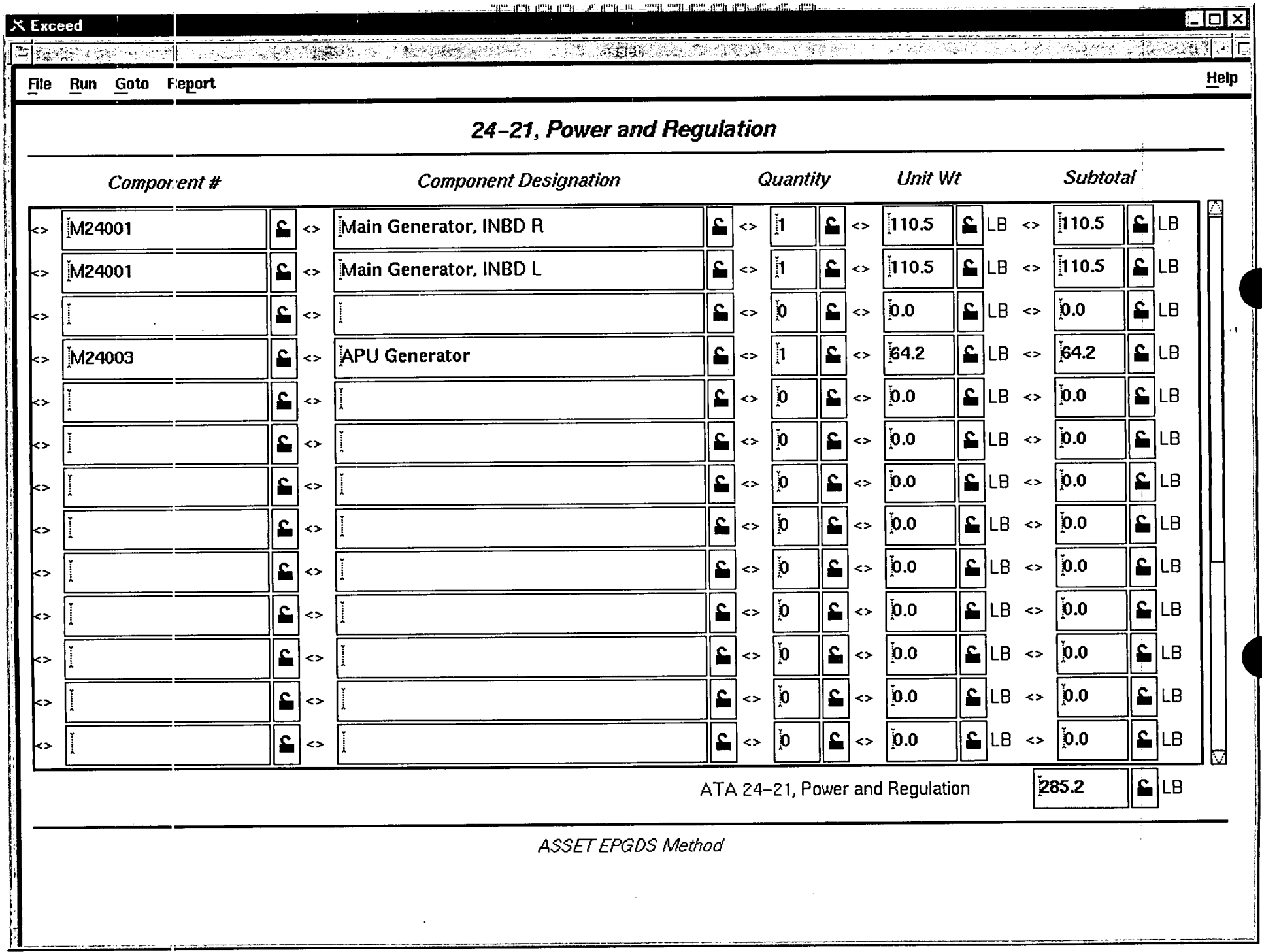

Exceed
File Run Goto Report Help
24-21, Power and Regulation
Component # | Component Designation | Quantity | Unit Wt | Subtotal
M24001 | Main Generator, INBD R | 1 | 110.5 LB | 110.5 LB
M24001 | Main Generator, INBD L | 1 | 110.5 LB | 110.5 LB
0 | 0.0 LB | 0.0 LB
M24003 | APU Generator | 1 | 64.2 LB | 64.2 LB
0 | 0.0 LB | 0.0 LB
ATA 24-21, Power and Regulation 285.2 LB
ASSET EPGDS Method

FIGURE 58

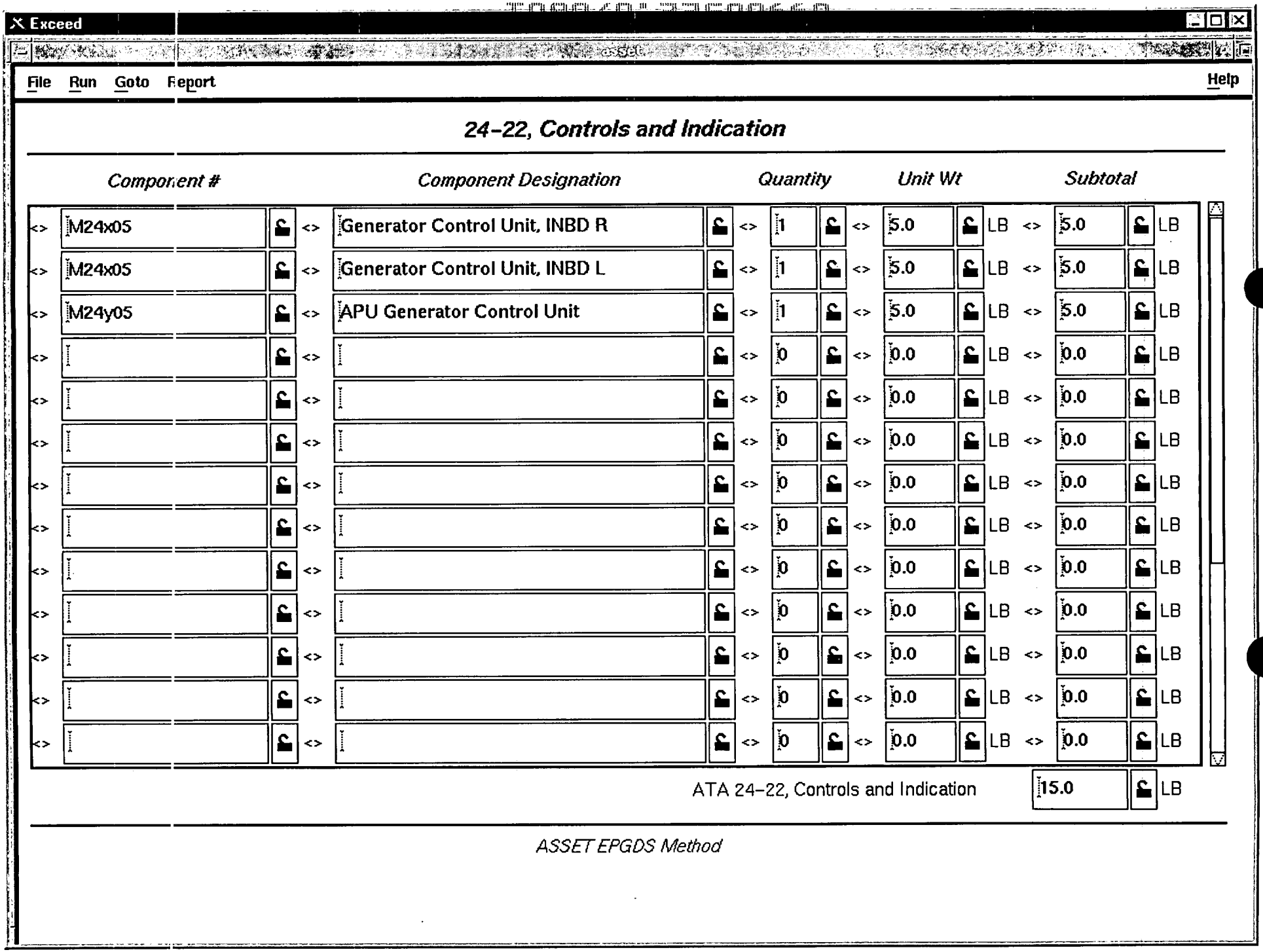

Exceed
asset
File Run Goto Report Help
24-22, Controls and Indication
Component # Component Designation Quantity Unit Wt Subtotal
M24x05 Generator Control Unit, INBD R 1 5.0 LB 5.0 LB
M24x05 Generator Control Unit, INBD L 1 5.0 LB 5.0 LB
M24y05 APU Generator Control Unit 1 5.0 LB 5.0 LB
0 0.0 LB 0.0 LB
ATA 24-22, Controls and Indication 15.0 LB
ASSET EPGDS Method

FIGURE 59

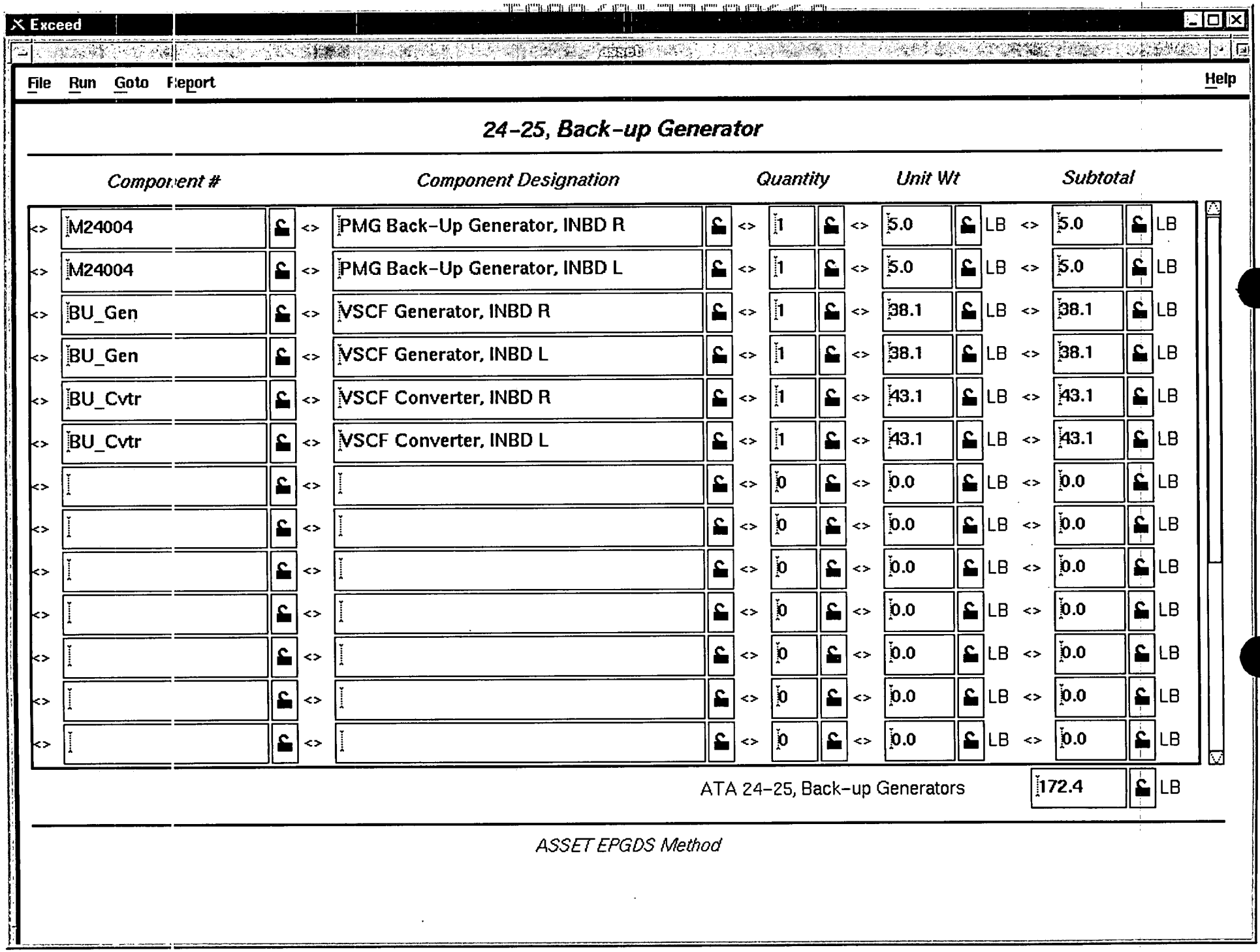

Exceed
File Run Goto Report Help
24-25, Back-up Generator
Component # Component Designation Quantity Unit Wt Subtotal
M24004 PMG Back-Up Generator, INBD R 1 5.0 LB 5.0 LB
M24004 PMG Back-Up Generator, INBD L 1 5.0 LB 5.0 LB
BU_Gen VSCF Generator, INBD R 1 38.1 LB 38.1 LB
BU_Gen VSCF Generator, INBD L 1 38.1 LB 38.1 LB
BU_Cvtr VSCF Converter, INBD R 1 43.1 LB 43.1 LB
BU_Cvtr VSCF Converter, INBD L 1 43.1 LB 43.1 LB
0 0.0 LB 0.0 LB
ATA 24-25, Back-up Generators 172.4 LB
ASSET EPGDS Method

FIGURE 60

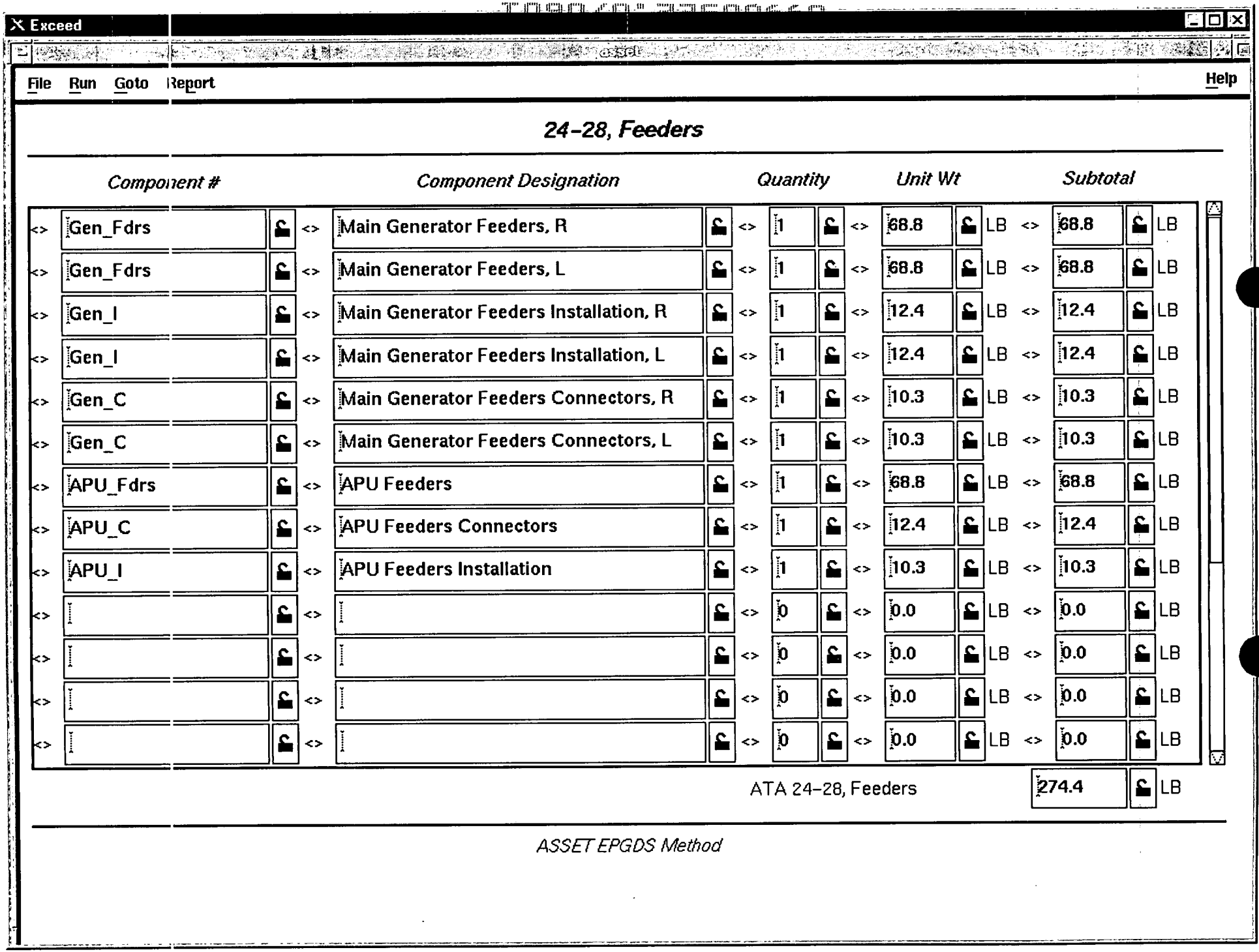

X Exceed
File Run Goto Report Help
24-28, Feeders
Component # | Component Designation | Quantity | Unit Wt | Subtotal
Gen_Fdrs | Main Generator Feeders, R | 1 | 68.8 LB | 68.8 LB
Gen_Fdrs | Main Generator Feeders, L | 1 | 68.8 LB | 68.8 LB
Gen_I | Main Generator Feeders Installation, R | 1 | 12.4 LB | 12.4 LB
Gen_I | Main Generator Feeders Installation, L | 1 | 12.4 LB | 12.4 LB
Gen_C | Main Generator Feeders Connectors, R | 1 | 10.3 LB | 10.3 LB
Gen_C | Main Generator Feeders Connectors, L | 1 | 10.3 LB | 10.3 LB
APU_Fdrs | APU Feeders | 1 | 68.8 LB | 68.8 LB
APU_C | APU Feeders Connectors | 1 | 12.4 LB | 12.4 LB
APU_I | APU Feeders Installation | 1 | 10.3 LB | 10.3 LB
0 | 0.0 LB | 0.0 LB
ATA 24-28, Feeders
274.4 LB
ASSET EPGDS Method

FIGURE 61

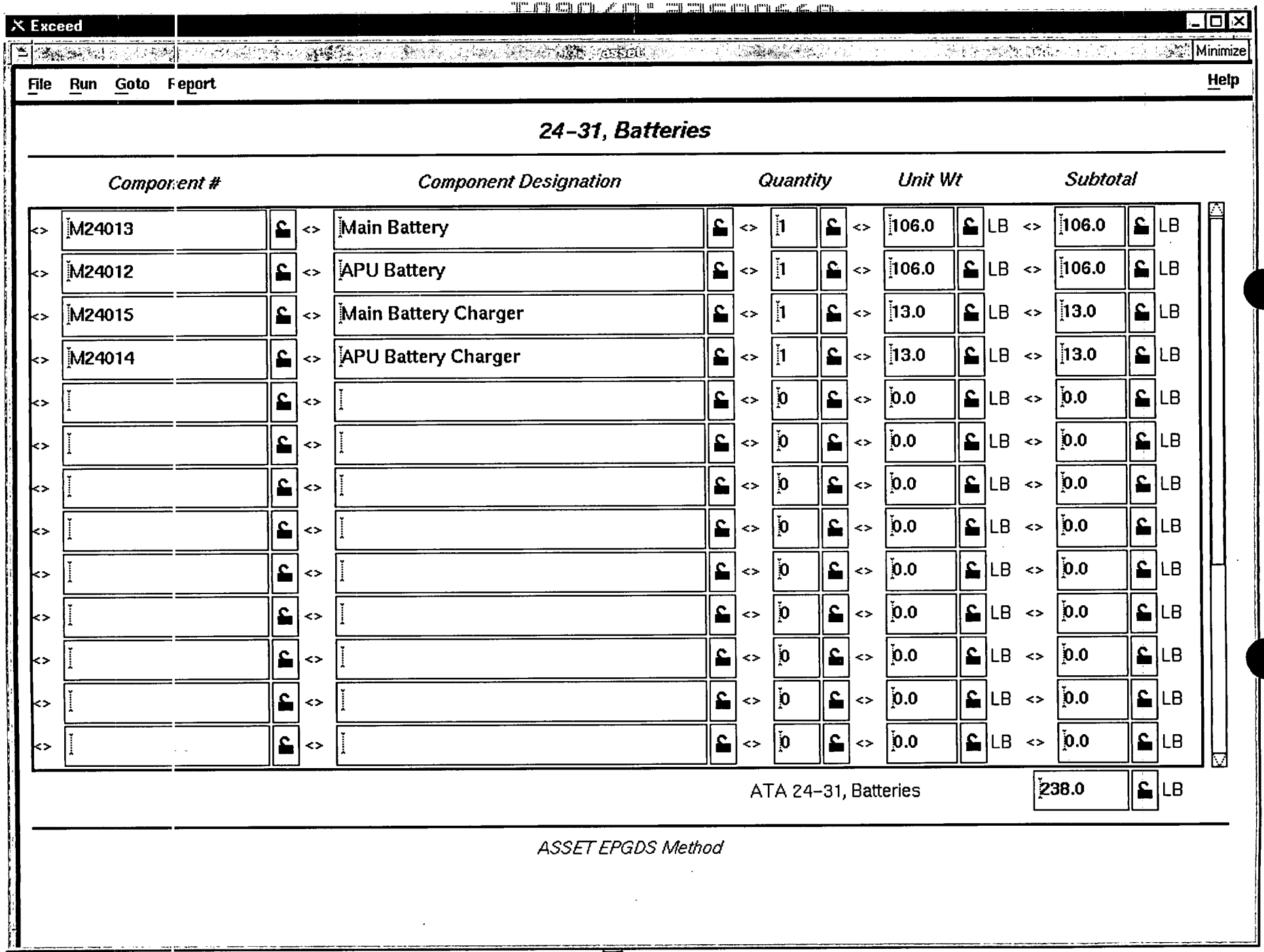

Exceed
Minimize
File Run Goto Report Help
24-31, Batteries
Component # Component Designation Quantity Unit Wt Subtotal
M24013 Main Battery 1 106.0 LB 106.0 LB
M24012 APU Battery 1 106.0 LB 106.0 LB
M24015 Main Battery Charger 1 13.0 LB 13.0 LB
M24014 APU Battery Charger 1 13.0 LB 13.0 LB
0 0.0 LB 0.0 LB
ATA 24-31, Batteries 238.0 LB
ASSET EPGDS Method

FIGURE 62

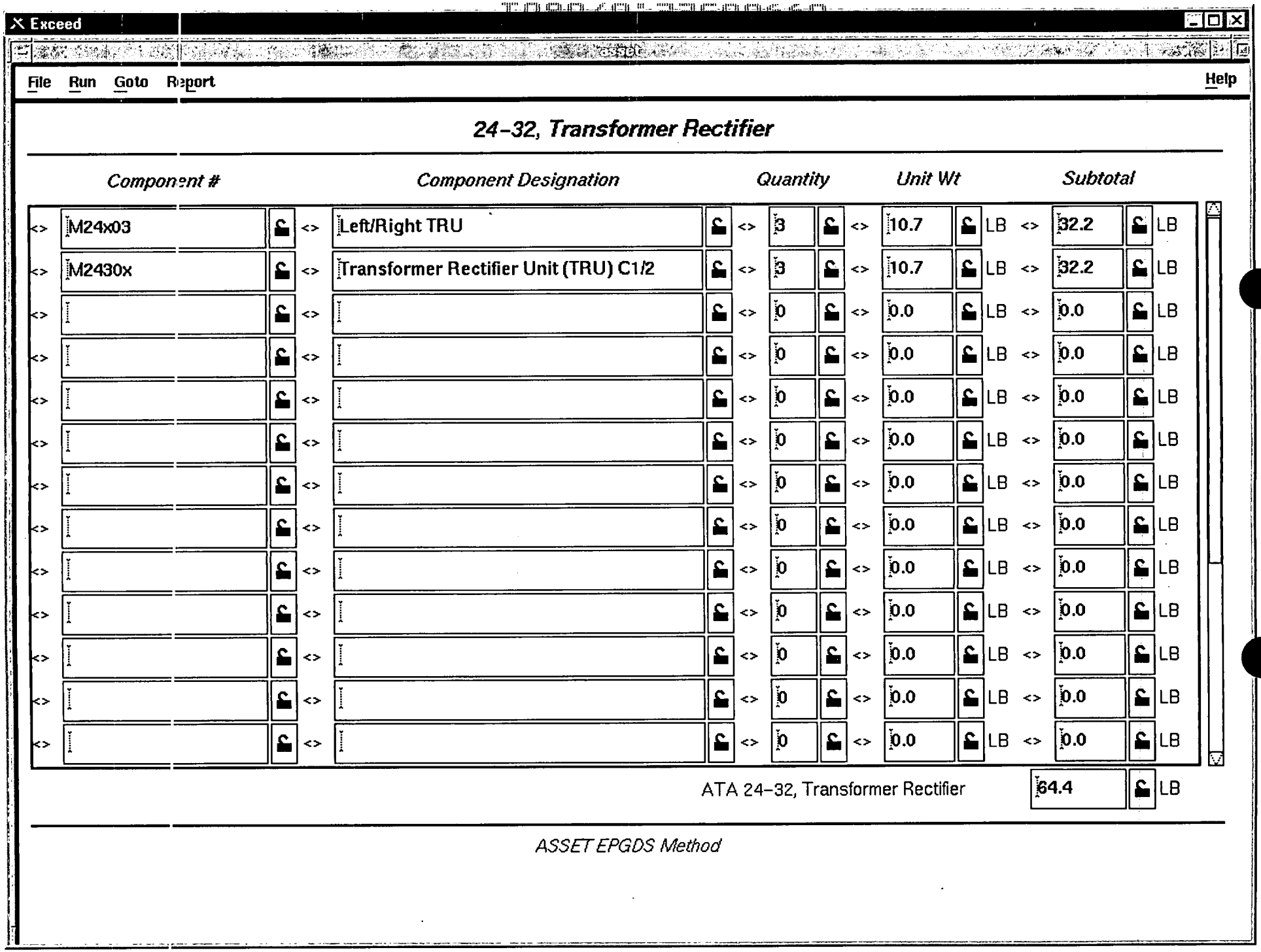

X Exceed
File Run Goto Report Help
24-32, Transformer Rectifier
Component #
Component Designation
Quantity
Unit Wt
Subtotal
M24x03
Left/Right TRU
3
10.7 LB
32.2 LB
M2430x
Transformer Rectifier Unit (TRU) C1/2
3
10.7 LB
32.2 LB
0
0.0 LB
0.0 LB
ATA 24-32, Transformer Rectifier
64.4 LB
ASSET EPGDS Method

FIGURE 63

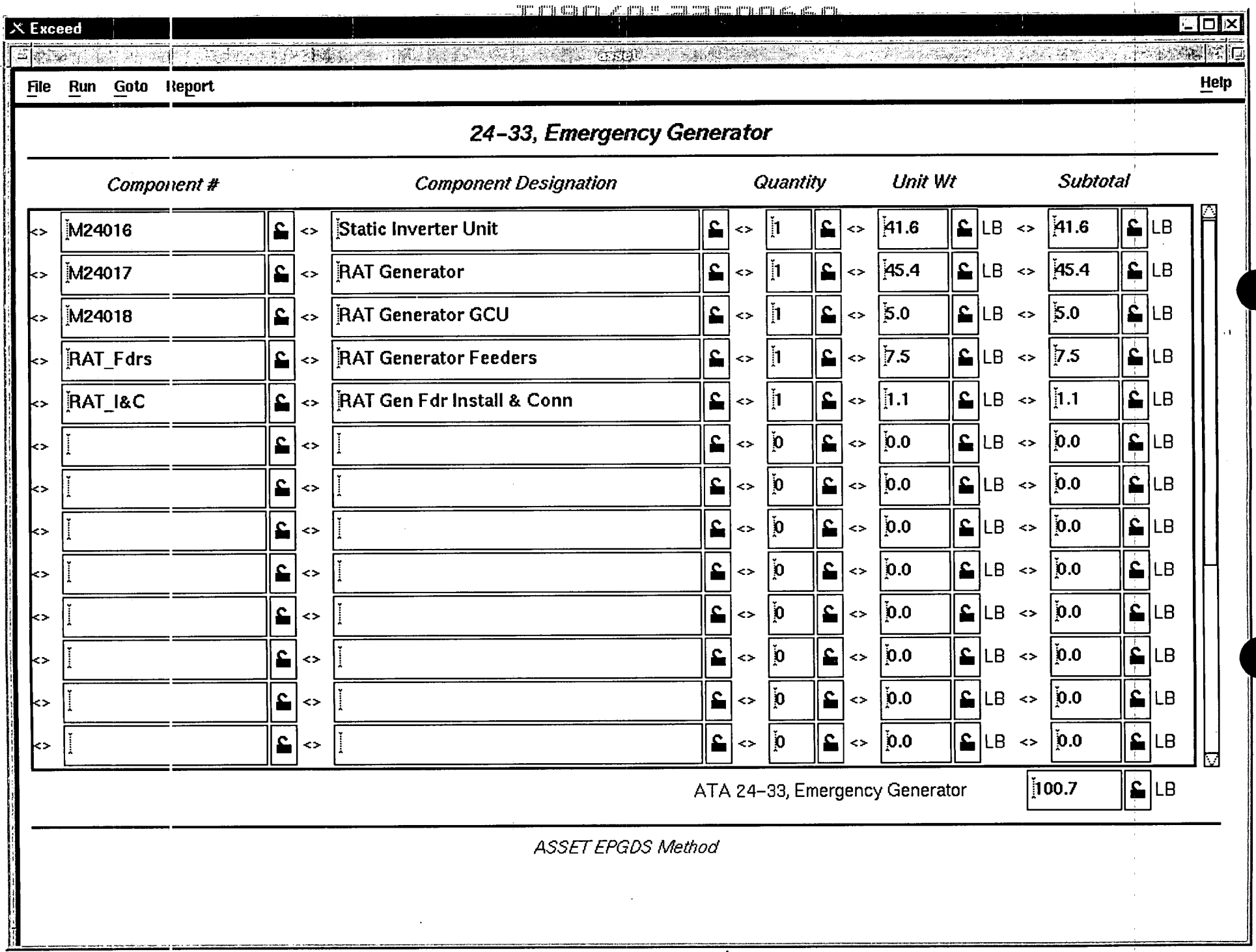

Exceed
File Run Goto Report Help
24-33, Emergency Generator
Component # Component Designation Quantity Unit Wt Subtotal
M24016 Static Inverter Unit 1 41.6 LB 41.6 LB
M24017 RAT Generator 1 45.4 LB 45.4 LB
M24018 RAT Generator GCU 1 5.0 LB 5.0 LB
RAT_Fdrs RAT Generator Feeders 1 7.5 LB 7.5 LB
RAT_I&C RAT Gen Fdr Install & Conn 1 1.1 LB 1.1 LB
0 0.0 LB 0.0 LB
ATA 24-33, Emergency Generator 100.7 LB
ASSET EPGDS Method

FIGURE 64

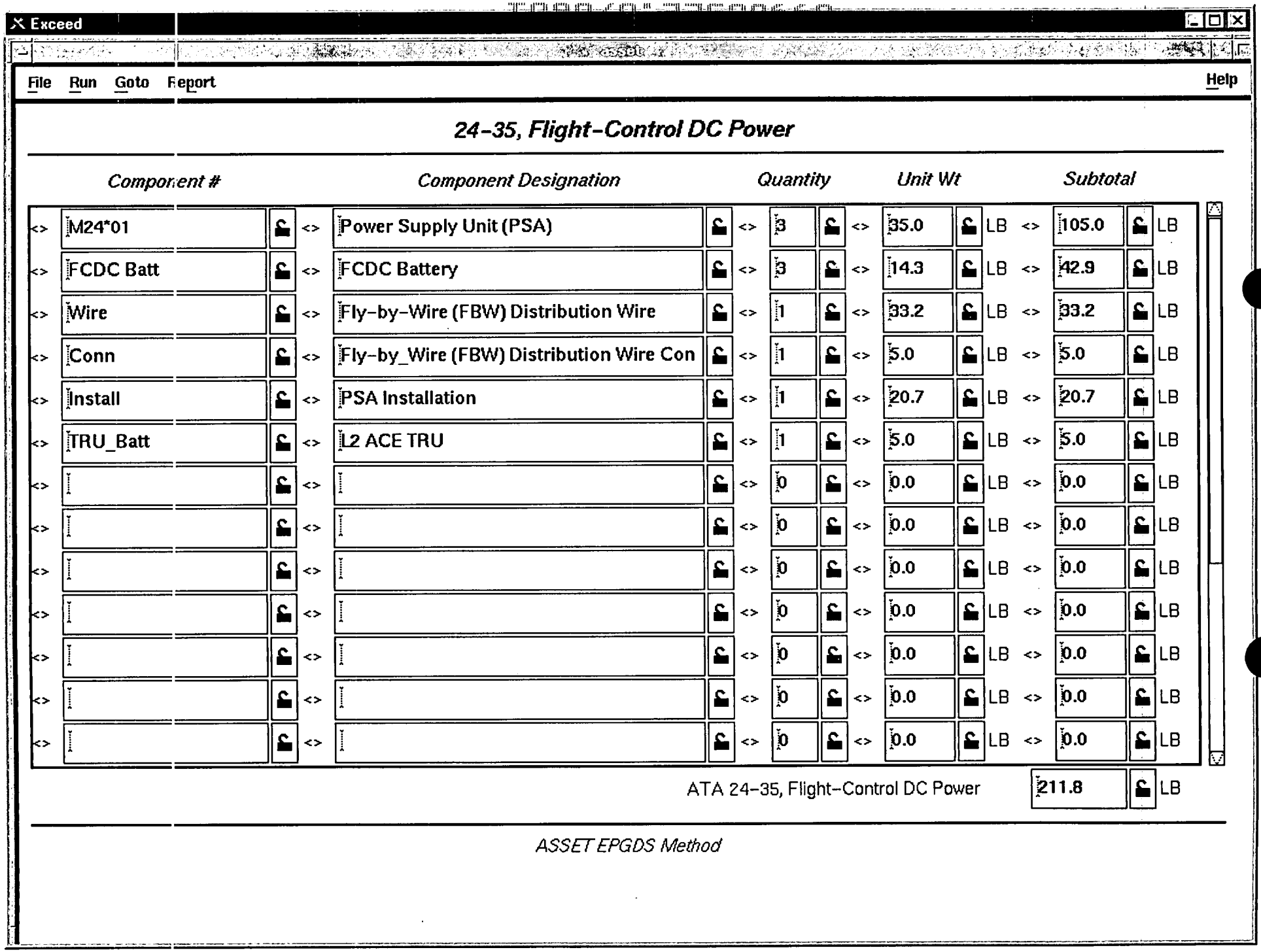

Exceed
File Run Goto Report Help
24-35, Flight-Control DC Power
Component # | Component Designation | Quantity | Unit Wt | Subtotal
M24*01 | Power Supply Unit (PSA) | 3 | 35.0 LB | 105.0 LB
FCDC Batt | FCDC Battery | 3 | 14.3 LB | 42.9 LB
Wire | Fly-by-Wire (FBW) Distribution Wire | 1 | 33.2 LB | 33.2 LB
Conn | Fly-by_Wire (FBW) Distribution Wire Con | 1 | 5.0 LB | 5.0 LB
Install | PSA Installation | 1 | 20.7 LB | 20.7 LB
TRU_Batt | L2 ACE TRU | 1 | 5.0 LB | 5.0 LB
0 | 0.0 LB | 0.0 LB
ATA 24-35, Flight-Control DC Power 211.8 LB
ASSET EPGDS Method

FIGURE 65

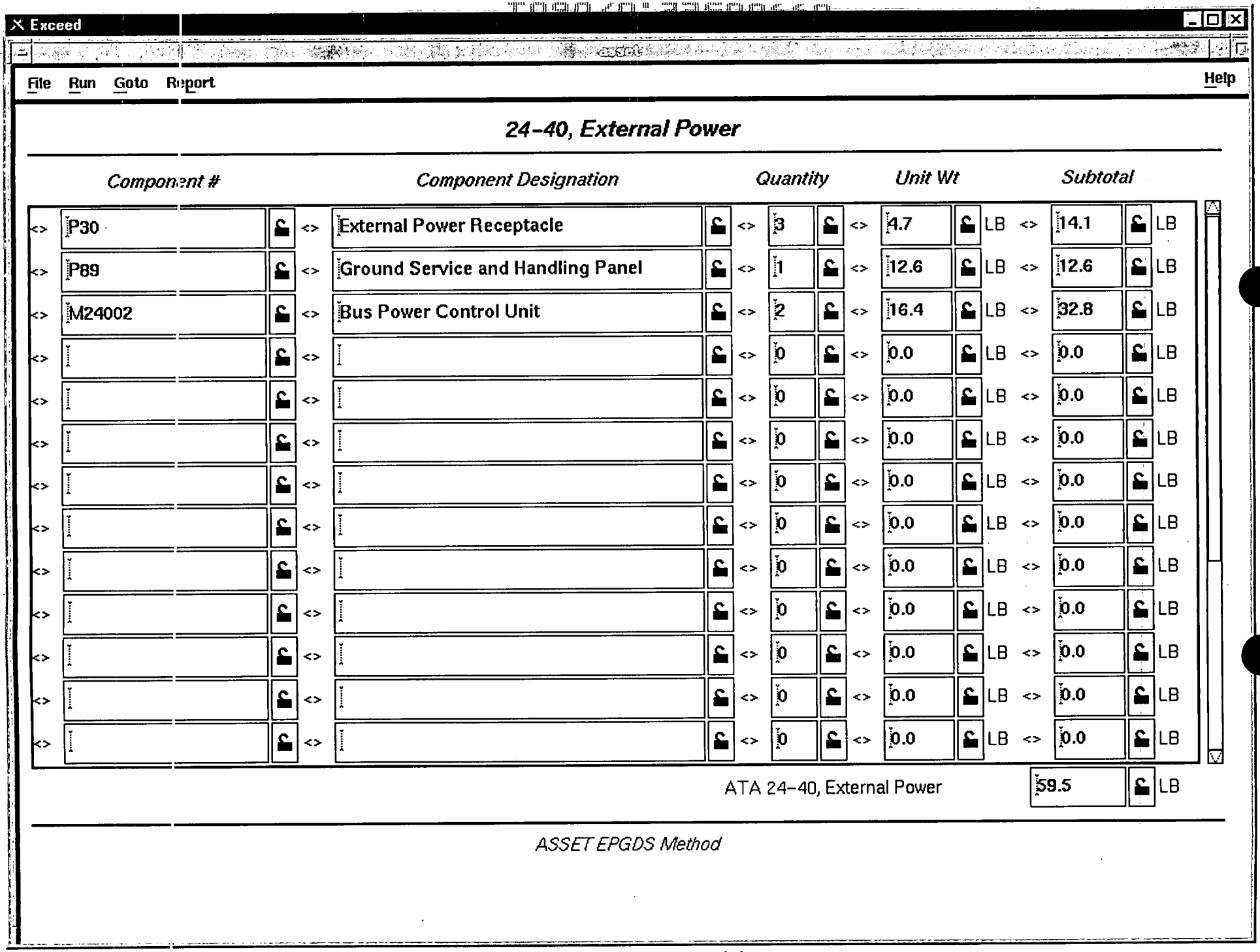

Exceed
File Run Goto Report Help
24-40, External Power
Component # Component Designation Quantity Unit Wt Subtotal
P30 External Power Receptacle 3 4.7 LB 14.1 LB
P89 Ground Service and Handling Panel 1 12.6 LB 12.6 LB
M24002 Bus Power Control Unit 2 16.4 LB 32.8 LB
0 0.0 LB 0.0 LB
ATA 24-40, External Power 59.5 LB
ASSET EPGDS Method

FIGURE 66

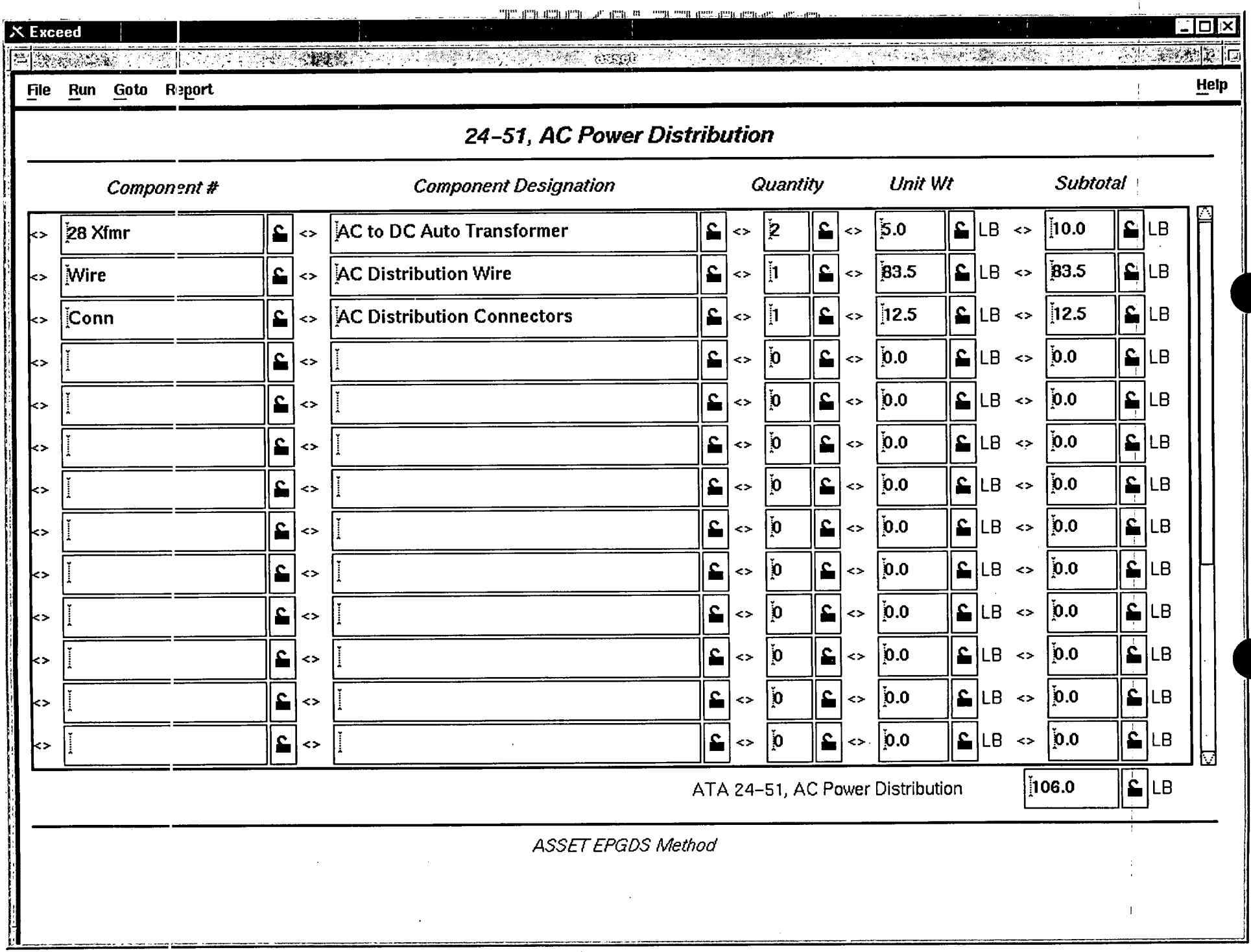

Exceed
File Run Goto Report Help
24-51, AC Power Distribution
Component # Component Designation Quantity Unit Wt Subtotal
28 Xfmr AC to DC Auto Transformer 2 5.0 LB 10.0 LB
Wire AC Distribution Wire 1 83.5 LB 83.5 LB
Conn AC Distribution Connectors 1 12.5 LB 12.5 LB
0 0.0 LB 0.0 LB
ATA 24-51, AC Power Distribution 106.0 LB
ASSET EPGDS Method

FIGURE 67

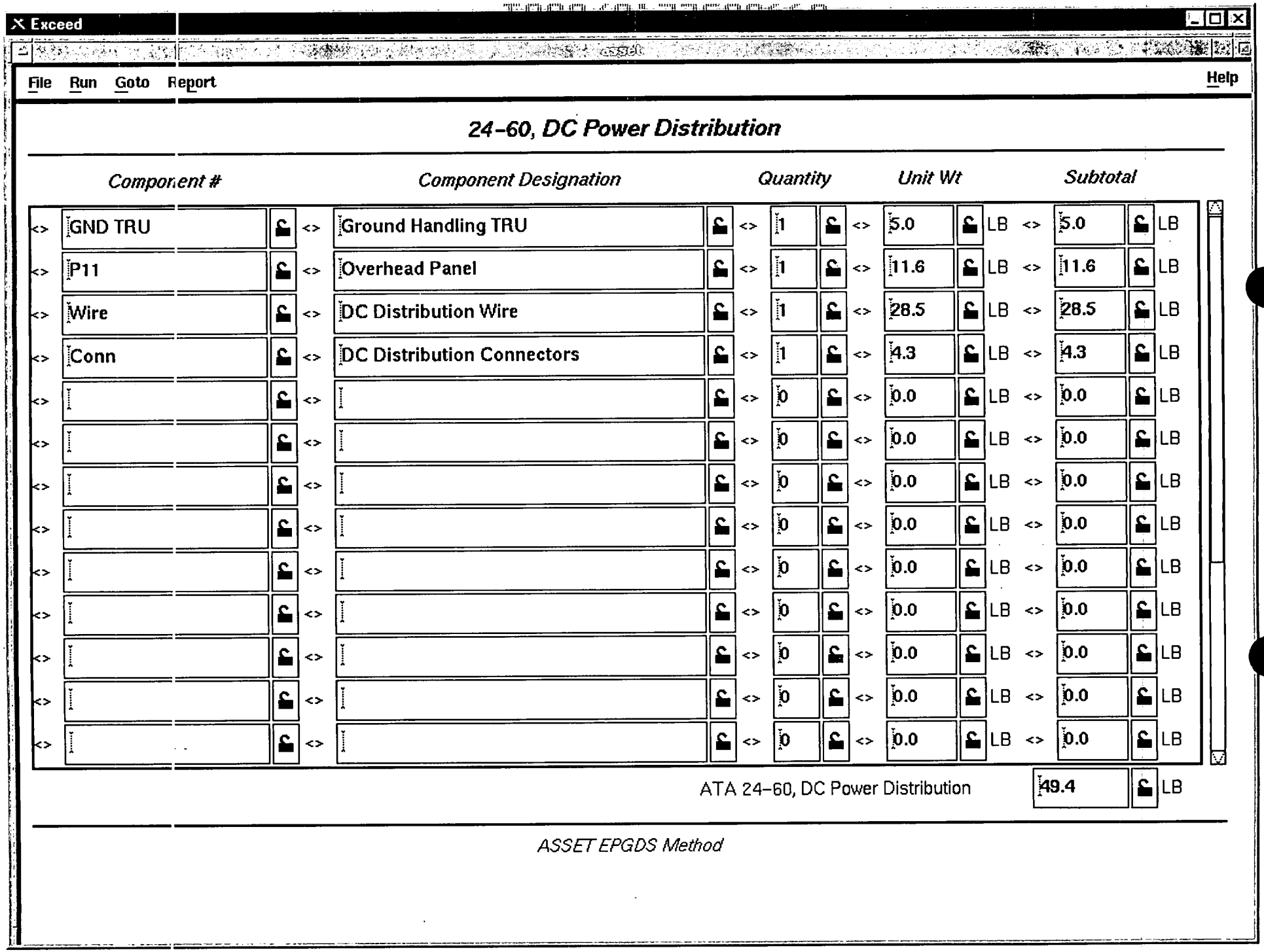

Exceed
File Run Goto Report Help
24-60, DC Power Distribution
Component # | Component Designation | Quantity | Unit Wt | Subtotal
GND TRU | Ground Handling TRU | 1 | 5.0 LB | 5.0 LB
P11 | Overhead Panel | 1 | 11.6 LB | 11.6 LB
Wire | DC Distribution Wire | 1 | 28.5 LB | 28.5 LB
Conn | DC Distribution Connectors | 1 | 4.3 LB | 4.3 LB
0 | 0.0 LB | 0.0 LB
ATA 24-60, DC Power Distribution 49.4 LB
ASSET EPGDS Method

FIGURE 68

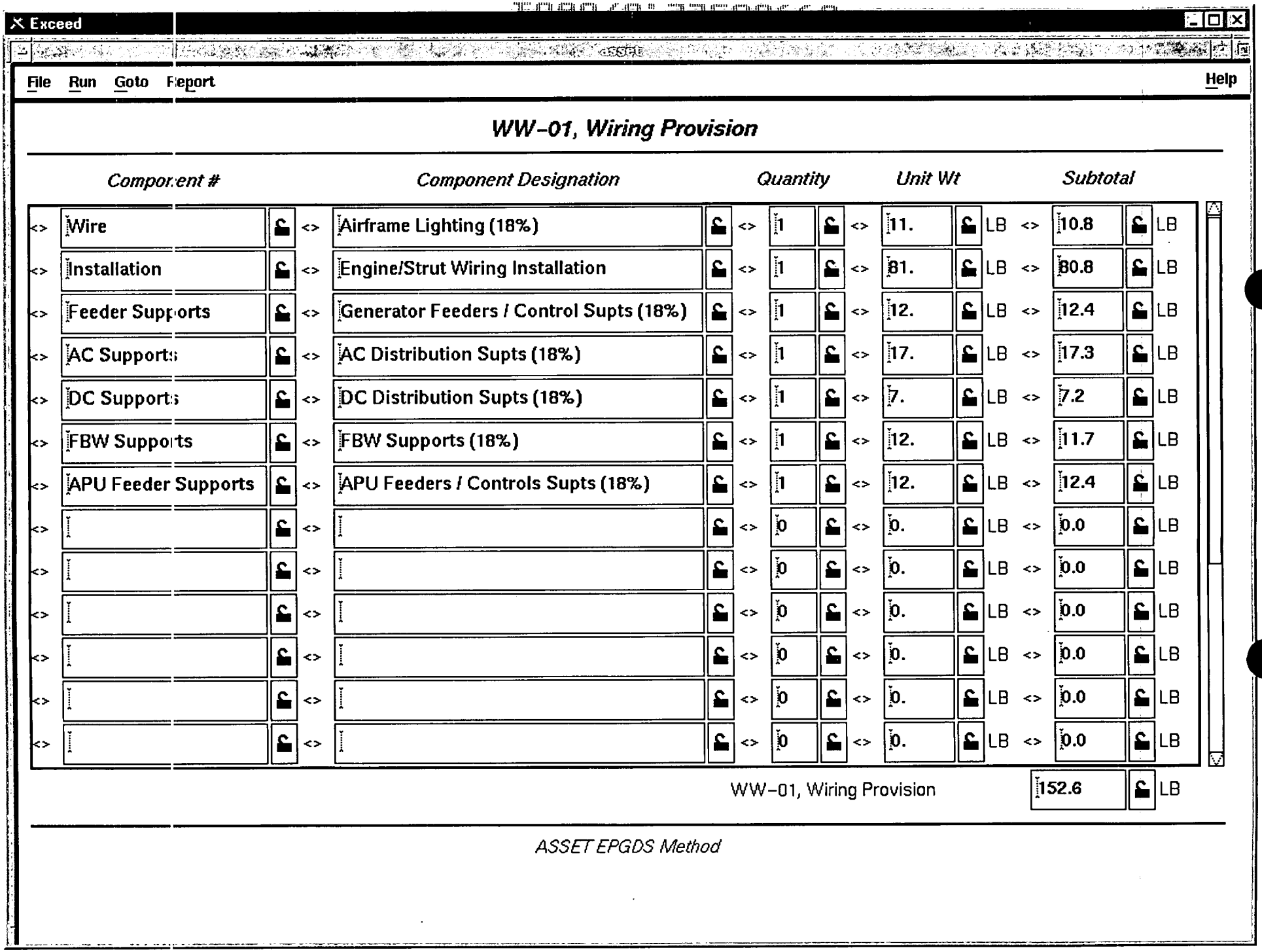

Exceed
File Run Goto Report Help
WW-01, Wiring Provision
Component # | Component Designation | Quantity | Unit Wt | Subtotal
Wire | Airframe Lighting (18%) | 1 | 11. LB | 10.8 LB
Installation | Engine/Strut Wiring Installation | 1 | 81. LB | 80.8 LB
Feeder Supports | Generator Feeders / Control Supts (18%) | 1 | 12. LB | 12.4 LB
AC Supports | AC Distribution Supts (18%) | 1 | 17. LB | 17.3 LB
DC Supports | DC Distribution Supts (18%) | 1 | 7. LB | 7.2 LB
FBW Supports | FBW Supports (18%) | 1 | 12. LB | 11.7 LB
APU Feeder Supports | APU Feeders / Controls Supts (18%) | 1 | 12. LB | 12.4 LB
0 0. LB 0.0 LB
WW-01, Wiring Provision 152.6 LB
ASSET EPGDS Method

FIGURE 69

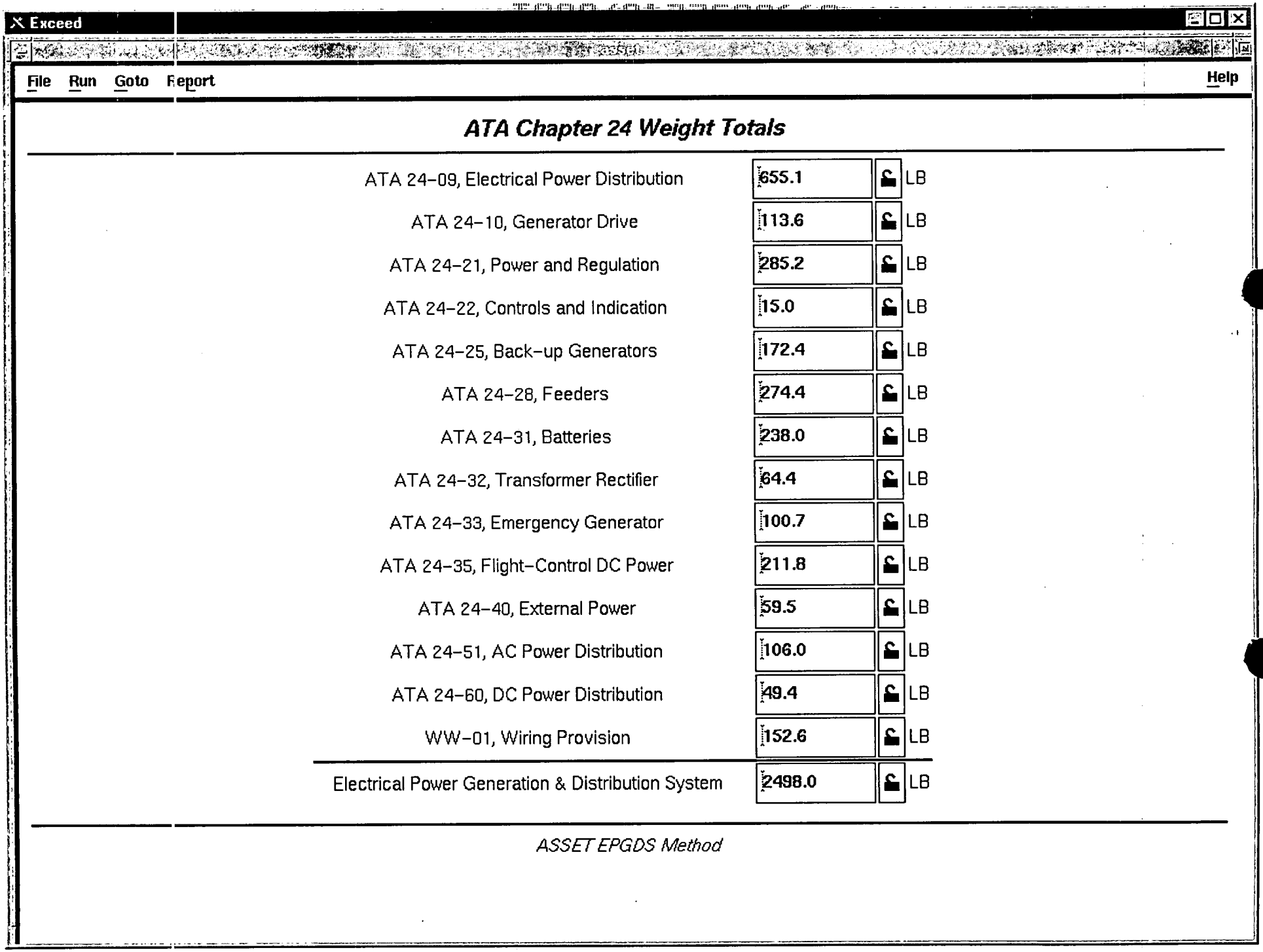

Exceed
File Run Goto Report Help
ATA Chapter 24 Weight Totals
ATA 24-09, Electrical Power Distribution 655.1 LB
ATA 24-10, Generator Drive 113.6 LB
ATA 24-21, Power and Regulation 285.2 LB
ATA 24-22, Controls and Indication 15.0 LB
ATA 24-25, Back-up Generators 172.4 LB
ATA 24-28, Feeders 274.4 LB
ATA 24-31, Batteries 238.0 LB
ATA 24-32, Transformer Rectifier 64.4 LB
ATA 24-33, Emergency Generator 100.7 LB
ATA 24-35, Flight-Control DC Power 211.8 LB
ATA 24-40, External Power 59.5 LB
ATA 24-51, AC Power Distribution 106.0 LB
ATA 24-60, DC Power Distribution 49.4 LB
WW-01, Wiring Provision 152.6 LB
Electrical Power Generation & Distribution System 2498.0 LB
ASSET EPGDS Method

FIGURE 70

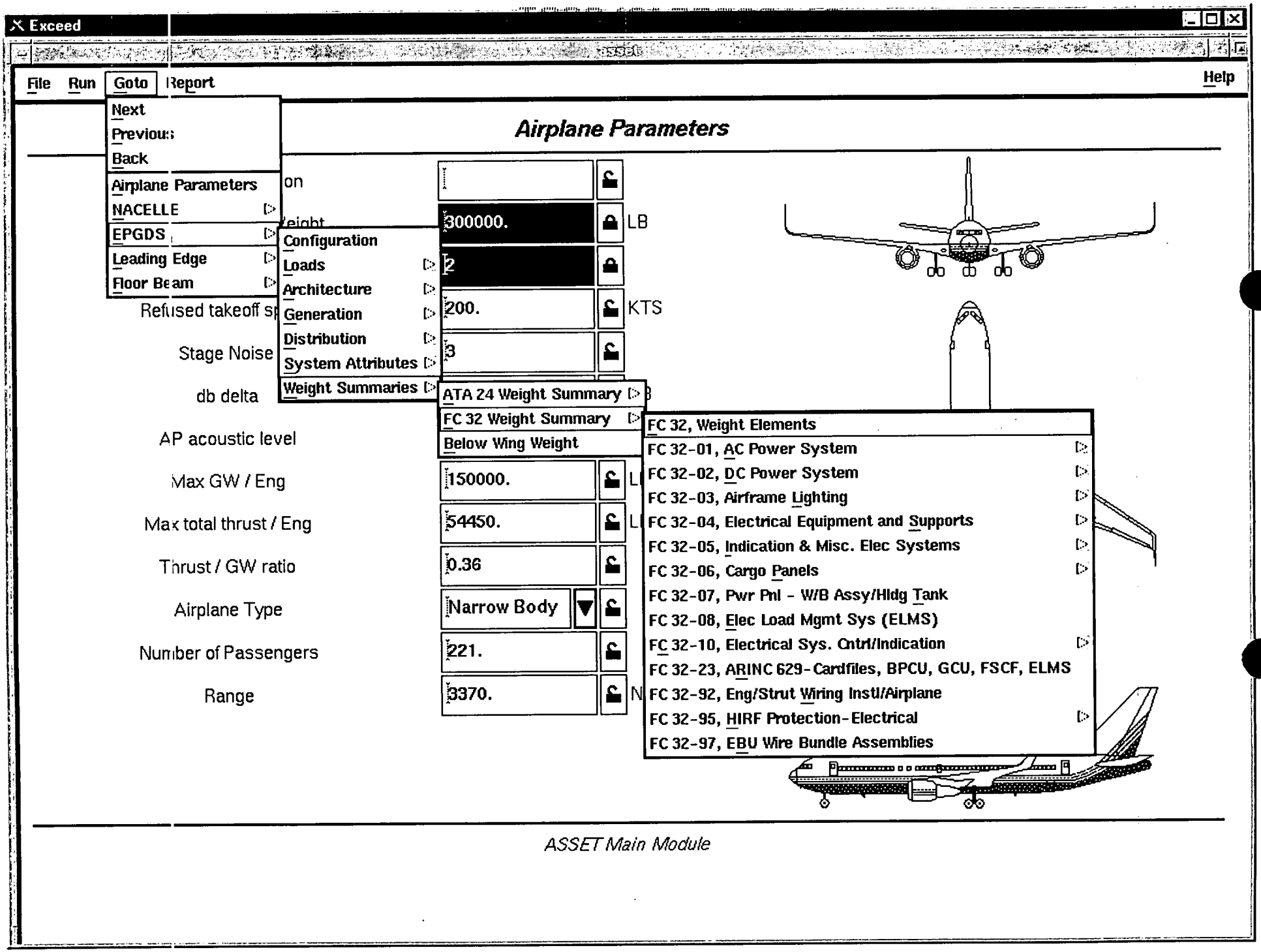

Exceed
File
Run
Goto
Report
Help
Next
Previous
Back
Airplane Parameters
NACELLE
EPGDS
Leading Edge
Floor Beam
Airplane Parameters
Configuration
Loads
Architecture
Generation
Distribution
System Attributes
Weight Summaries
ATA 24 Weight Summary
FC 32 Weight Summary
Below Wing Weight
FC 32, Weight Elements
FC 32-01, AC Power System
FC 32-02, DC Power System
FC 32-03, Airframe Lighting
FC 32-04, Electrical Equipment and Supports
FC 32-05, Indication & Misc. Elec Systems
FC 32-06, Cargo Panels
FC 32-07, Pwr Pnl - W/B Assy/Hldg Tank
FC 32-08, Elec Load Mgmt Sys (ELMS)
FC 32-10, Electrical Sys. Cntrl/Indication
FC 32-23, ARINC 629-Cardfiles, BPCU, GCU, FSCF, ELMS
FC 32-92, Eng/Strut Wiring Instl/Airplane
FC 32-95, HIRF Protection-Electrical
FC 32-97, EBU Wire Bundle Assemblies
Refused takeoff sp
Stage Noise
db delta
AP acoustic level
Max GW / Eng
Max total thrust / Eng
Thrust / GW ratio
Airplane Type
Number of Passengers
Range
300000.
LB
200.
KTS
3
150000.
54450.
0.36
Narrow Body
221.
3370.
ASSET Main Module

FIGURE 71

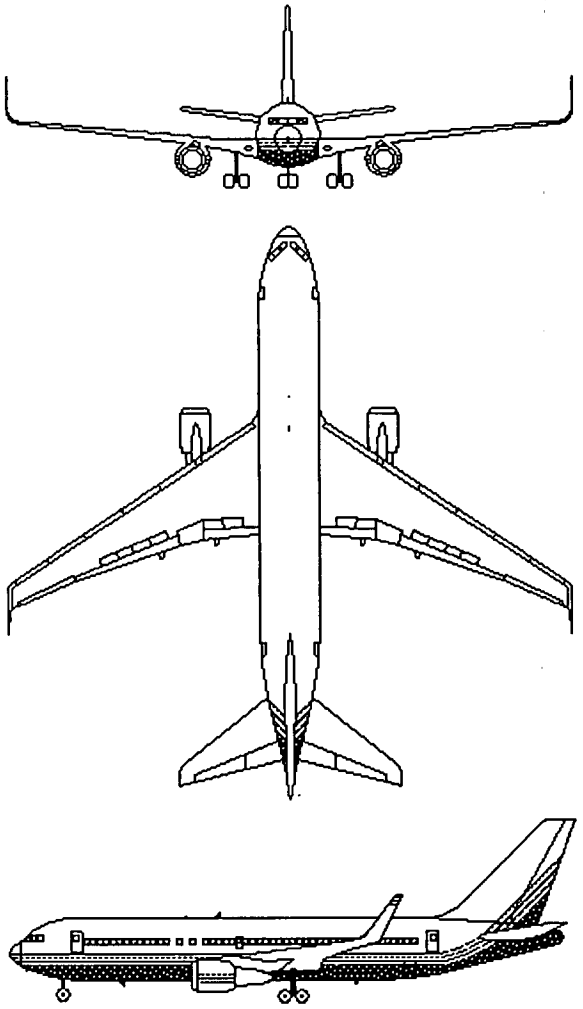
Exceed

File Run Goto Report Help

FC32
ALL VARIABLES
CHARTS

Airplane Parameters

Airplane application		
Maximum Takeoff Weight	300000.	LB
Number of engines	2	
Refused takeoff speed	200.	KTS
Stage Noise	3	
db delta	0.	DB
AP acoustic level	100.	DB
Max GW / Eng	150000.	LB
Max total thrust / Eng	54450.	LB
Thrust / GW ratio	0.36	
Airplane Type	Narrow Body	
Number of Passengers	221.	
Range	3370.	NM



ASSET Main Module

FIGURE 12

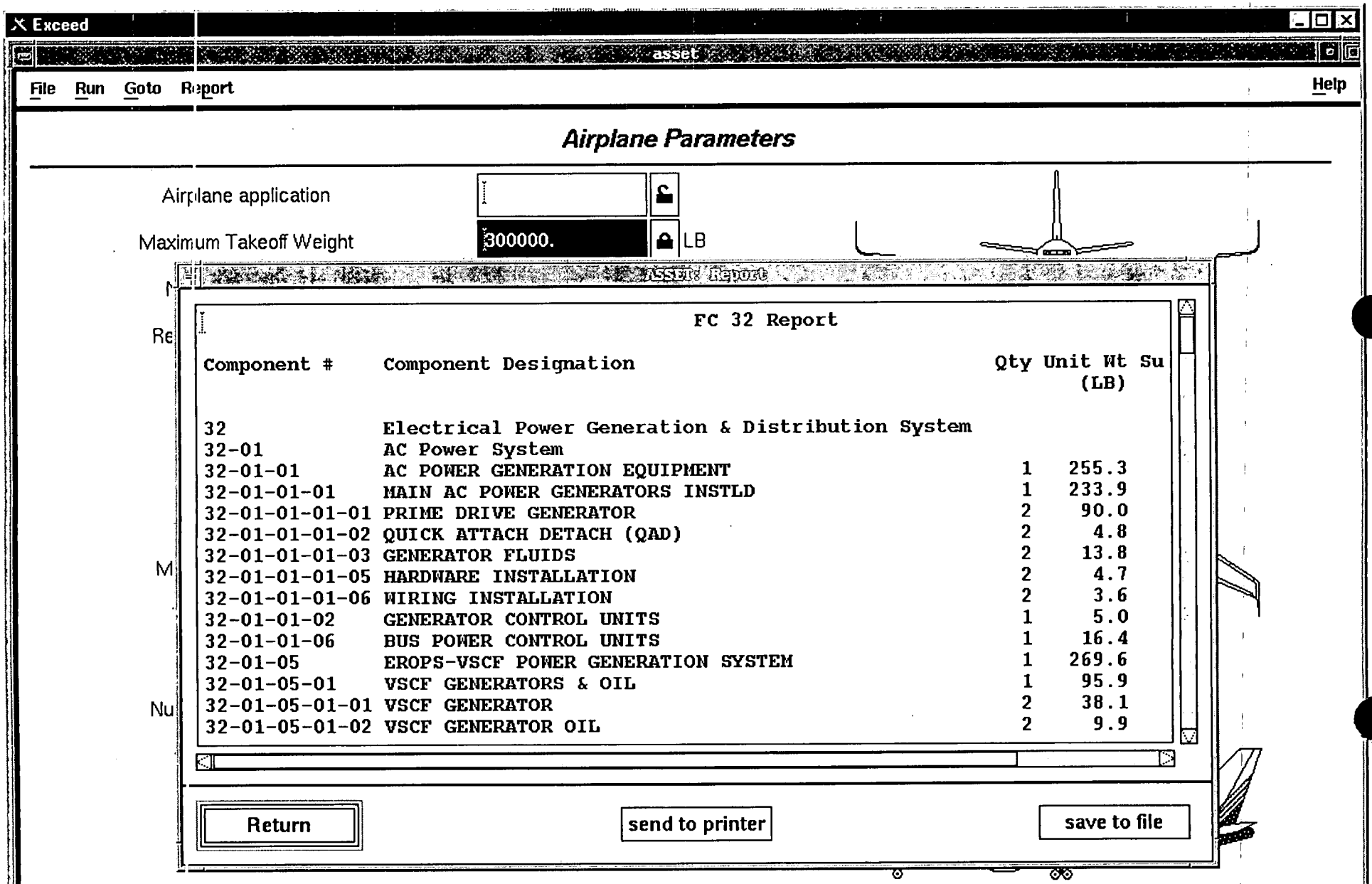
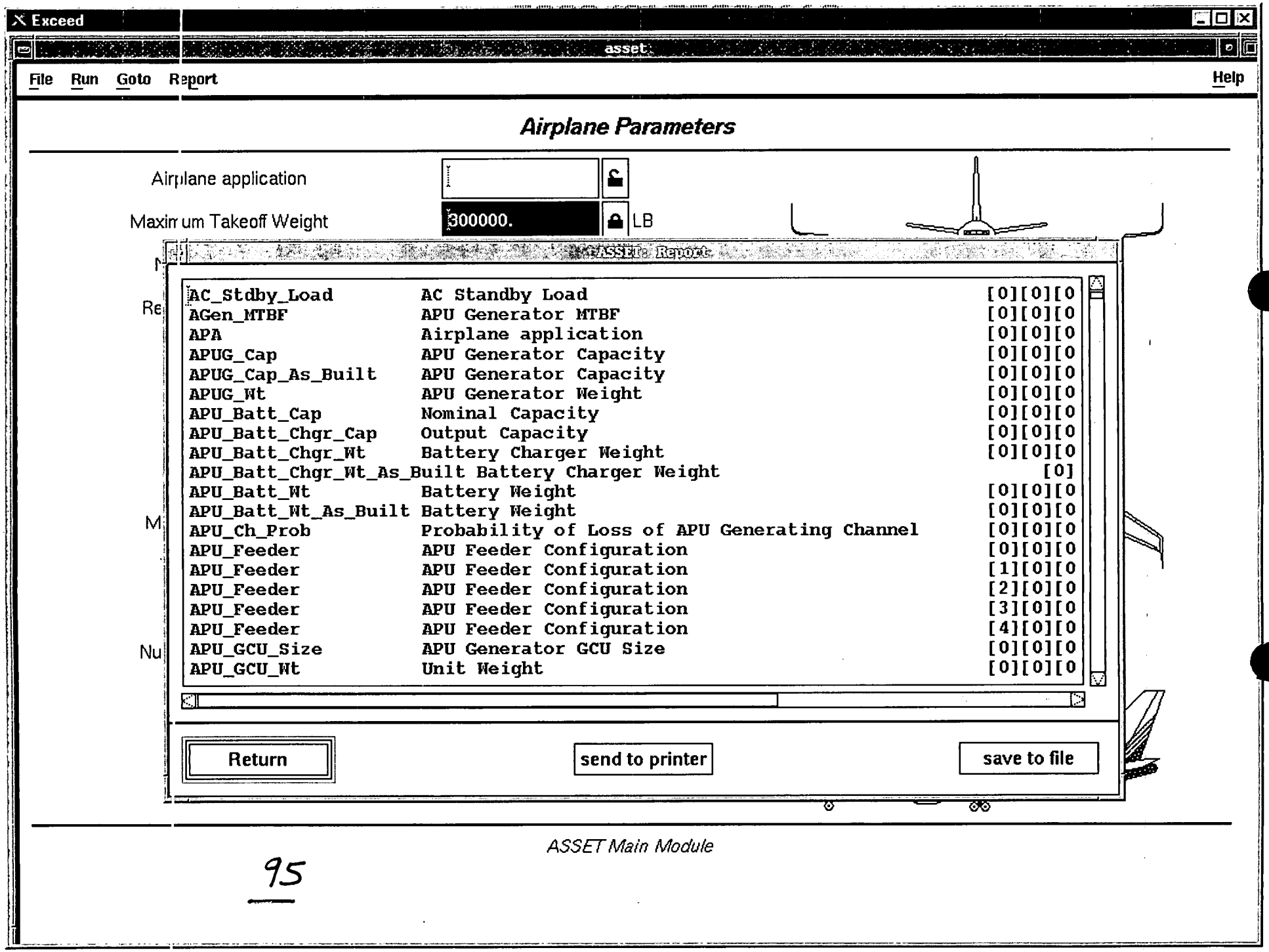

Exceed
asset
File Run Goto Report Help
Airplane Parameters
Airplane application
Maximum Takeoff Weight
300000.
LB
ASSET Report
FC 32 Report
Component # Component Designation Qty Unit Wt Su (LB)
32 Electrical Power Generation & Distribution System
32-01 AC Power System
32-01-01 AC POWER GENERATION EQUIPMENT 1 255.3
32-01-01-01 MAIN AC POWER GENERATORS INSTLD 1 233.9
32-01-01-01-01 PRIME DRIVE GENERATOR 2 90.0
32-01-01-01-02 QUICK ATTACH DETACH (QAD) 2 4.8
32-01-01-01-03 GENERATOR FLUIDS 2 13.8
32-01-01-01-05 HARDWARE INSTALLATION 2 4.7
32-01-01-01-06 WIRING INSTALLATION 2 3.6
32-01-01-02 GENERATOR CONTROL UNITS 1 5.0
32-01-01-06 BUS POWER CONTROL UNITS 1 16.4
32-01-05 EROPS-VSCF POWER GENERATION SYSTEM 1 269.6
32-01-05-01 VSCF GENERATORS & OIL 1 95.9
32-01-05-01-01 VSCF GENERATOR 2 38.1
32-01-05-01-02 VSCF GENERATOR OIL 2 9.9
Return
send to printer
save to file
ASSET Main Module

FIGURE 13



ASSET Main Module

95

FIGURE 94

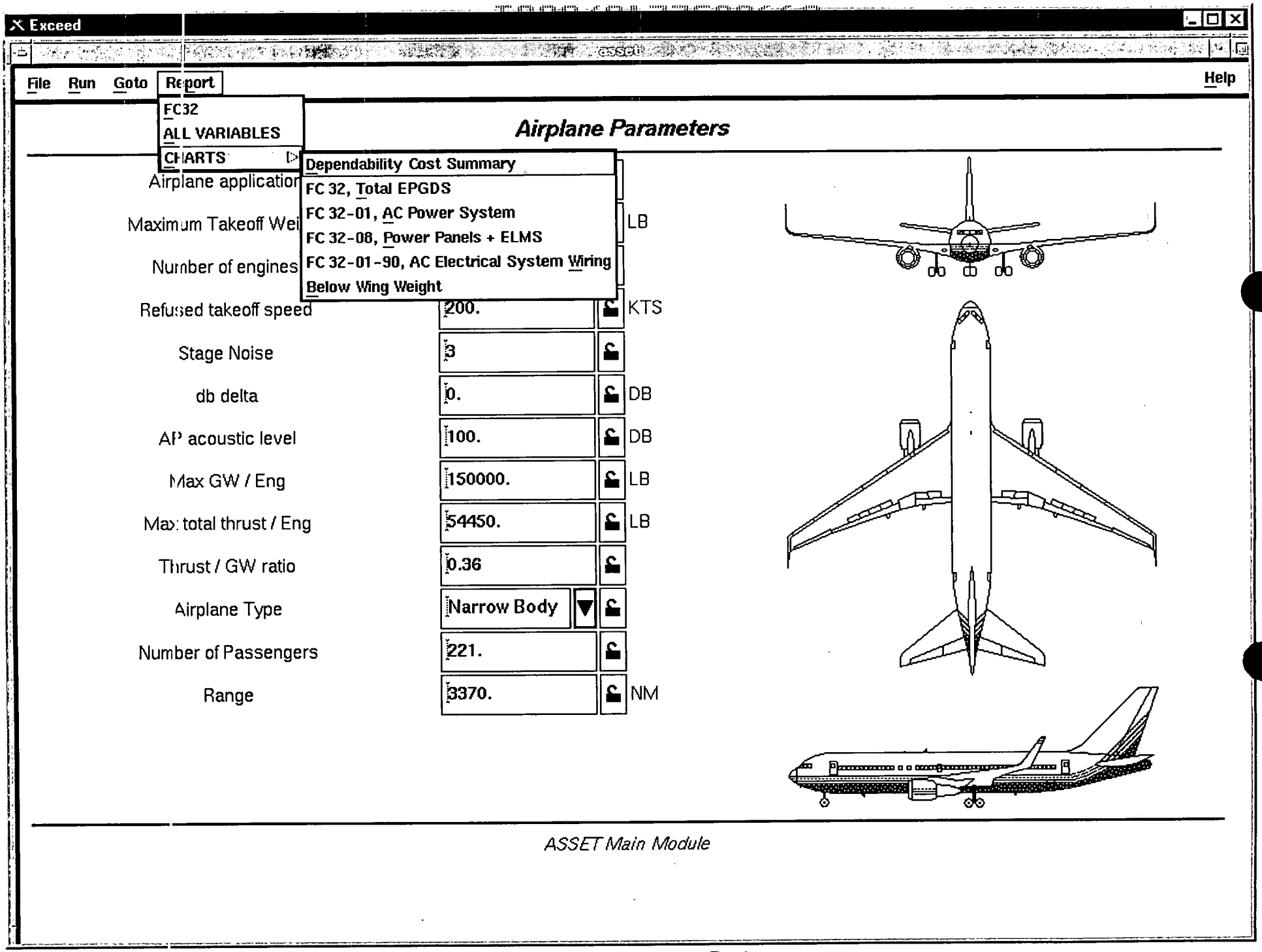

Exceed
File
Run
Goto
Report
Help
FC32
ALL VARIABLES
CHARTS
Dependability Cost Summary
FC 32, Total EPGDS
FC 32-01, AC Power System
FC 32-08, Power Panels + ELMS
FC 32-01-90, AC Electrical System Wiring
Below Wing Weight
Airplane Parameters
Airplane application
Maximum Takeoff Wei
LB
Number of engines
Refused takeoff speed
200.
KTS
Stage Noise
3
db delta
0.
DB
AP acoustic level
100.
DB
Max GW / Eng
150000.
LB
Max total thrust / Eng
54450.
LB
Thrust / GW ratio
0.36
Airplane Type
Narrow Body
Number of Passengers
221.
Range
3370.
NM
ASSET Main Module

FIGURE 75

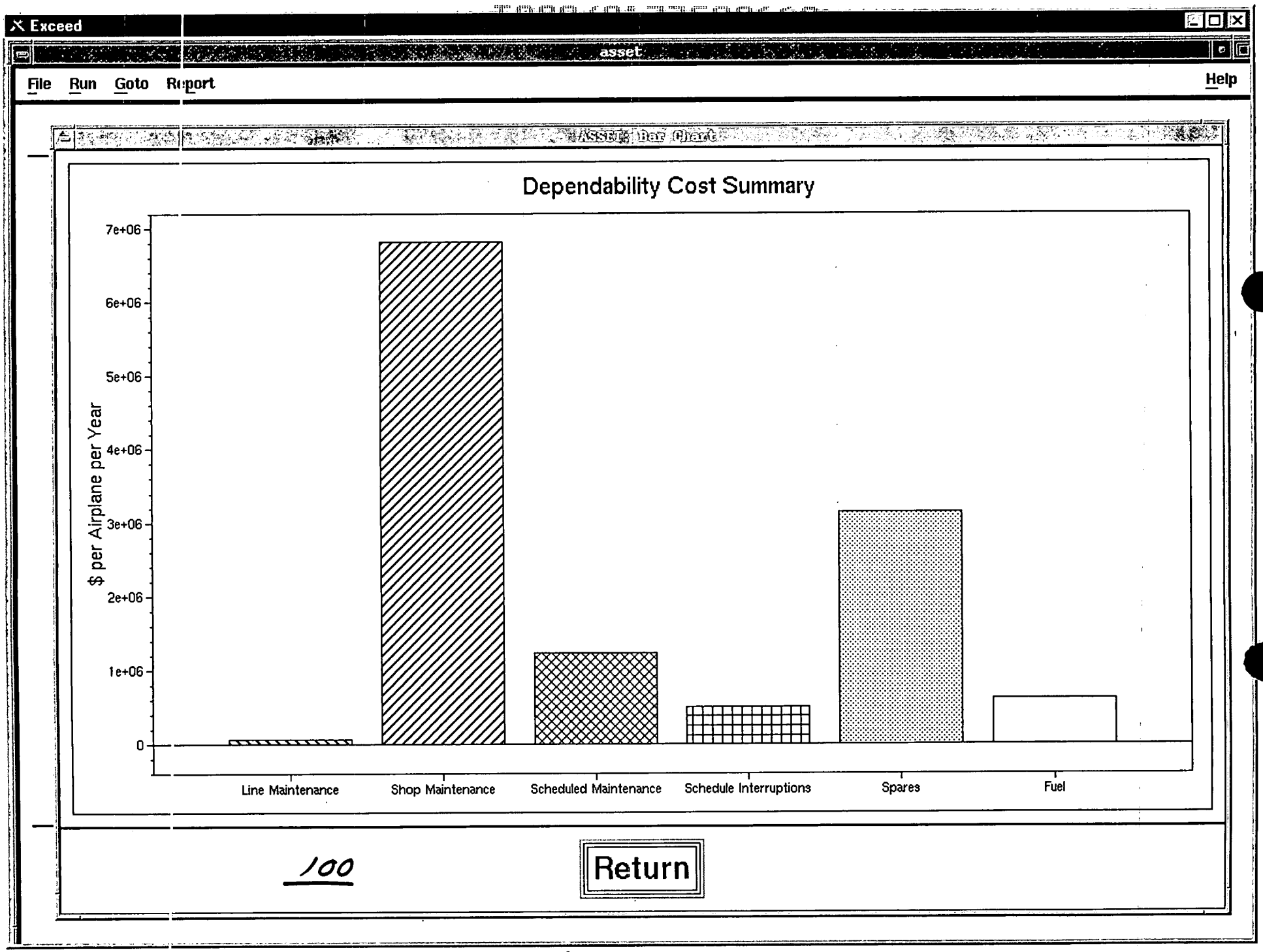

Exceed
asset
File
Run
Goto
Report
Help
ASSET: Bar Chart
Dependability Cost Summary
$ per Airplane per Year
7e+06
6e+06
5e+06
4e+06
3e+06
2e+06
1e+06
0
Line Maintenance
Shop Maintenance
Scheduled Maintenance
Schedule Interruptions
Spares
Fuel
100
Return

FIGURE 7G

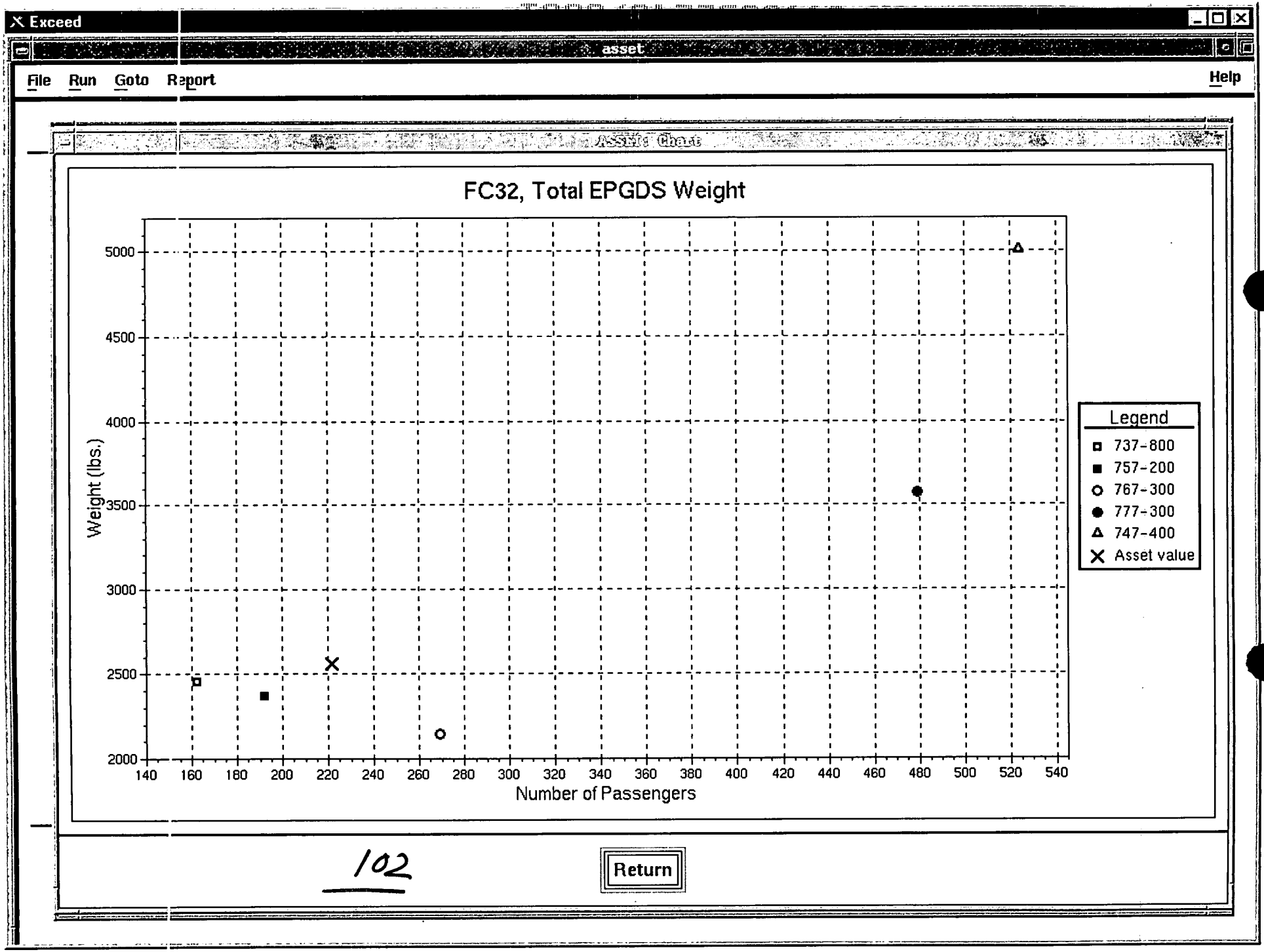

Exceed
asset
File
Run
Goto
Report
Help
Asset Chart
FC32, Total EPGDS Weight
Weight (lbs.)
5000
4500
4000
3500
3000
2500
2000
140
160
180
200
220
240
260
280
300
320
340
360
380
400
420
440
460
480
500
520
540
Number of Passengers
Legend
737-800
757-200
767-300
777-300
747-400
Asset value
102
Return

FIGURE 77

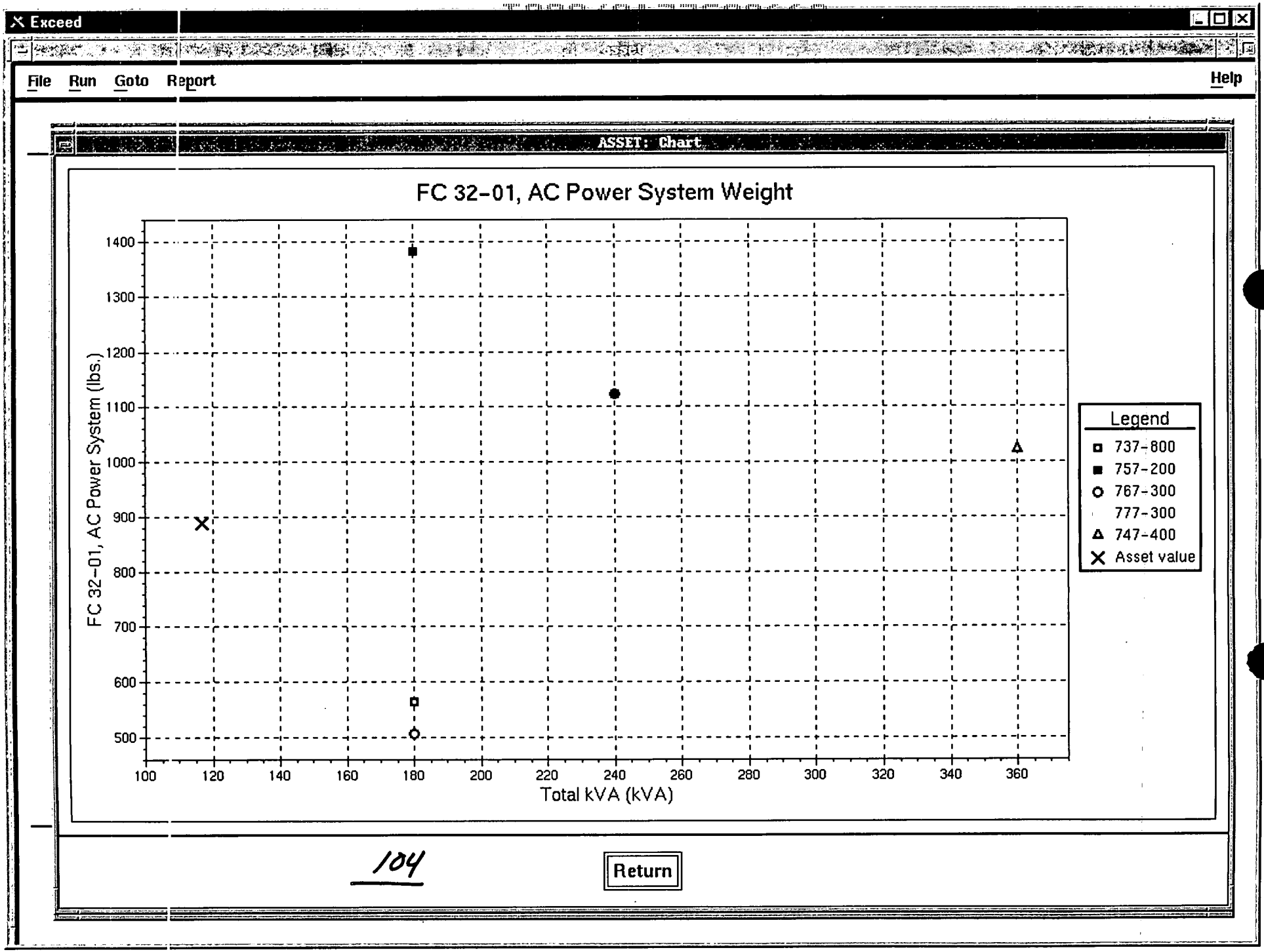

Exceed
File Run Goto Report Help
ASSET: Chart
FC 32-01, AC Power System Weight
FC 32-01, AC Power System (lbs.)
1400
1300
1200
1100
1000
900
800
700
600
500
100 120 140 160 180 200 220 240 260 280 300 320 340 360
Total kVA (kVA)
Legend
737-800
757-200
767-300
777-300
747-400
Asset value
104
Return

FIGURE 78

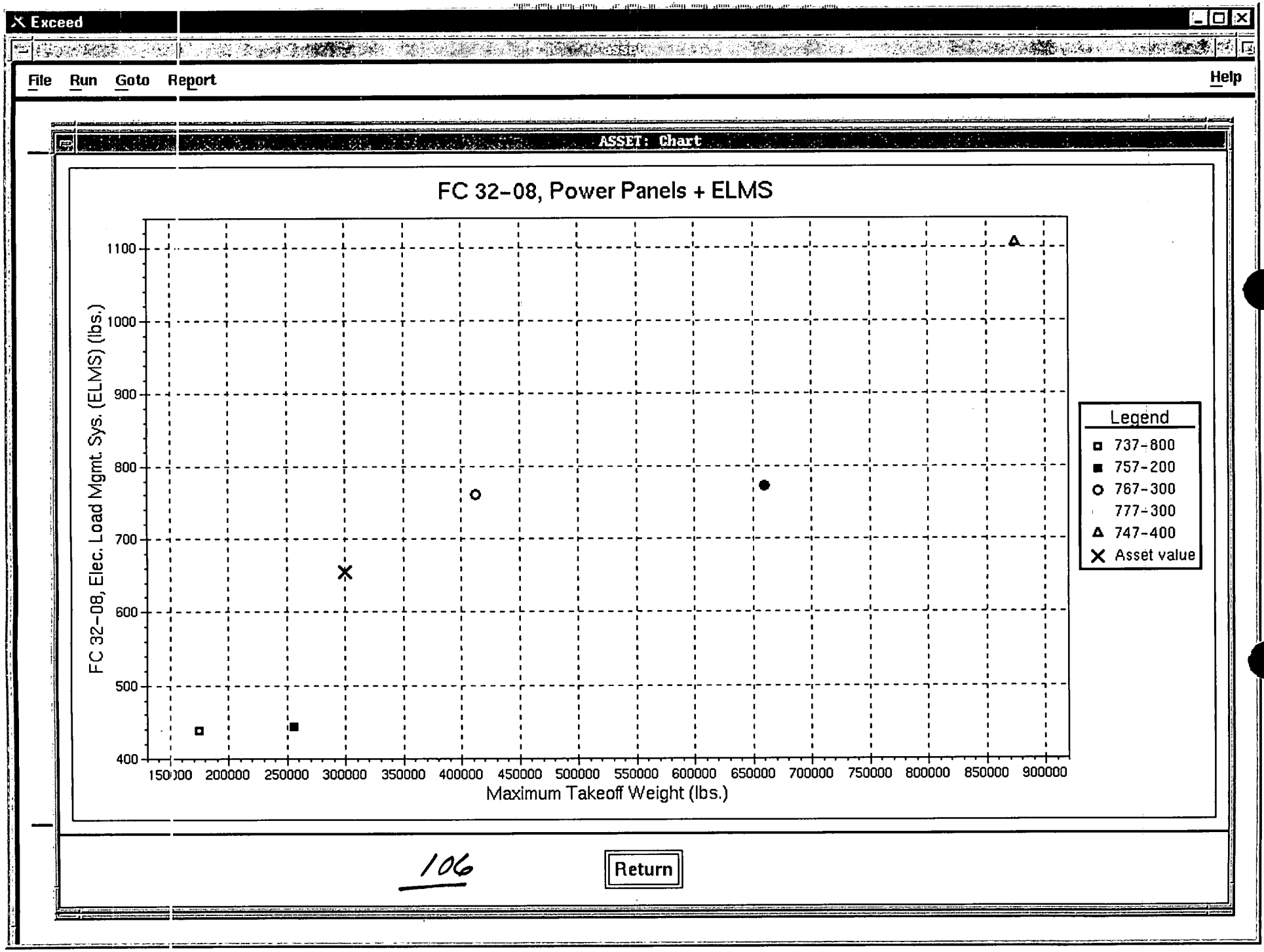

Exceed
File Run Goto Report Help
ASSET: Chart
FC 32-08, Power Panels + ELMS
FC 32-08, Elec. Load Mgmt. Sys. (ELMS) (lbs.)
1100
1000
900
800
700
600
500
400
150000 200000 250000 300000 350000 400000 450000 500000 550000 600000 650000 700000 750000 800000 850000 900000
Maximum Takeoff Weight (lbs.)
Legend
737-800
757-200
767-300
777-300
747-400
Asset value
106
Return

FIGURE 79

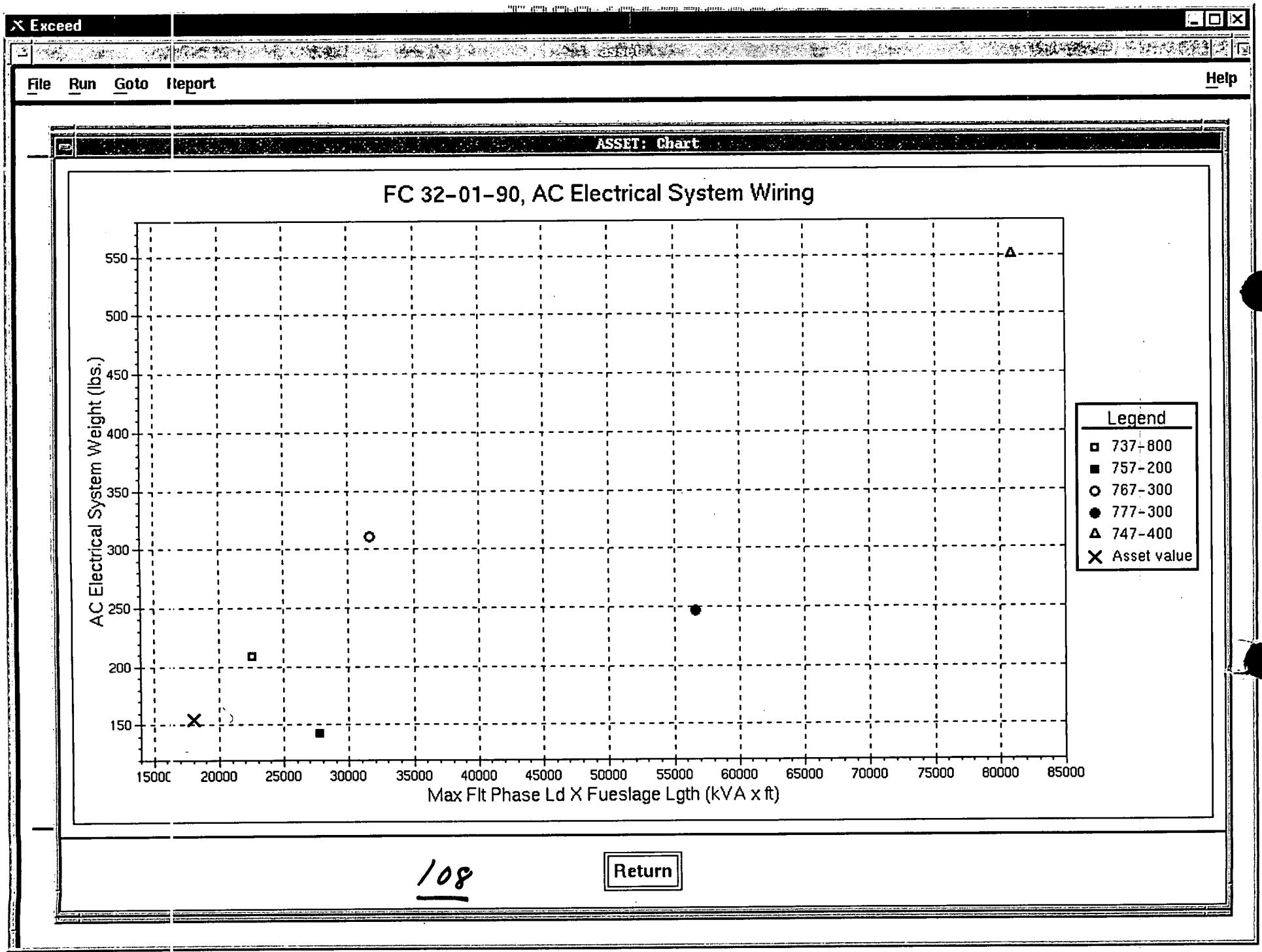

X Exceed
File Run Goto Report Help
ASSET: Chart
FC 32-01-90, AC Electrical System Wiring
AC Electrical System Weight (lbs.)
550
500
450
400
350
300
250
200
150
15000
20000
25000
30000
35000
40000
45000
50000
55000
60000
65000
70000
75000
80000
85000
Max Flt Phase Ld X Fueslage Lgth (kVA x ft)
Legend
737-800
757-200
767-300
777-300
747-400
Asset value
108
Return

FIGURE 80

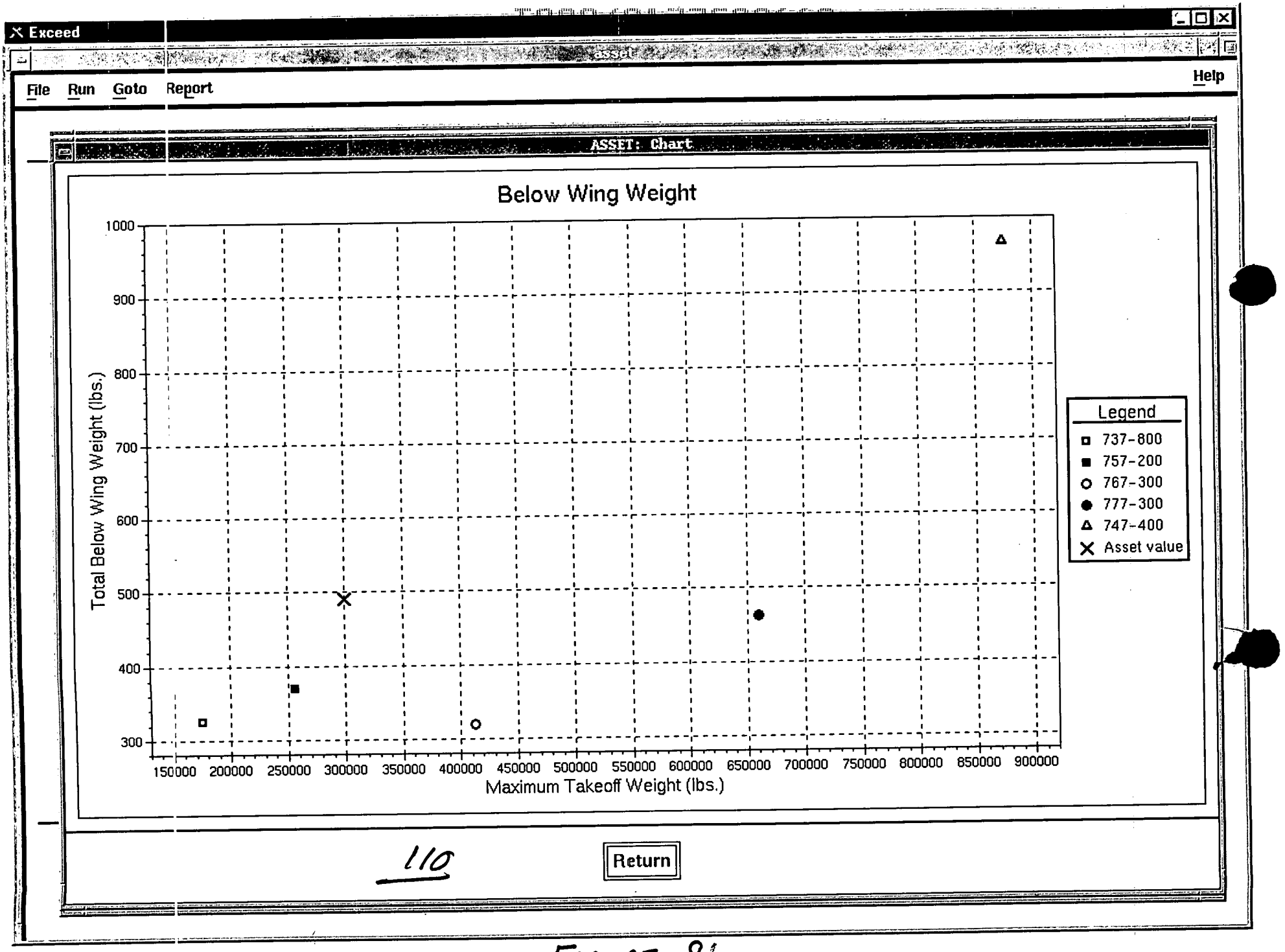

Exceed
File
Run
Goto
Report
Help
ASSET: Chart
Below Wing Weight
Total Below Wing Weight (lbs.)
1000
900
800
700
600
500
400
300
150000
200000
250000
300000
350000
400000
450000
500000
550000
600000
650000
700000
750000
800000
850000
900000
Maximum Takeoff Weight (lbs.)
Legend
737-800
757-200
767-300
777-300
747-400
Asset value
110
Return

FIGURE 8